FUTURING SMART ENERGY

www.lsis.com

High Torque Performance and Precise Control

Standard Drive iS7

0.75~75kW (1~100HP) 3Phase 200 ~ 230Volts
0.75~375kW (1~500HP) 3Phase 380 ~ 480Volts

LS IS

User-Friendly Options

Diverse communication options, expansion I/O options,
PLC options, encoder options, IP54 enclosure options

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iS7 generates a more powerful performance through its superior V/F control, V/F PG, slip compensation, and sensorless vector control. The iS7 focuses on a user-friendly interface and environment-friendly features including a wide graphic LCD keypad, user & macro group support, electro-thermal functions for motor protection, and protection for input/ output phase loss.

The iS7 sets the world standard for drives (VFDs) because of its features that meet all of your needs in AC drives.
The iS7 offers powerful performance, flexibility through diverse options, and a more convenient and user-friendly interface.
The iS7 offers more than you can imagine.

ISO14001, ISO9001

※ ABS Standard – Acquired (up to 90kW) / In Progress (above 110kW)
※ DNV Standard – Acquired (up to 375kW)

iS7 is dependable because it has high performance and reliability.

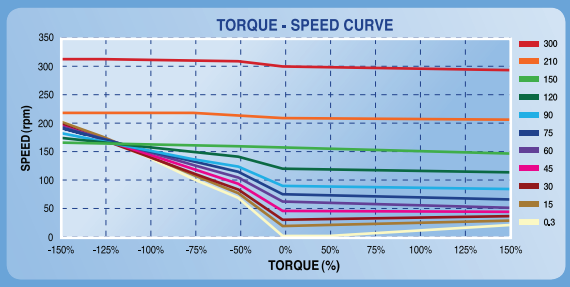
iS7 Feature | **Reliability & High Performance**

Reliability

Powerful electric current type sensorless vector control

Our iS7 technology includes a competitive and strong low-speed torque control and a speed-precision-driven vector algorithm.

- Speed control range 100:1
- Extremely low torque control capability: 0.1Hz/150% real torque
- Max. torque control capability within the restoration range

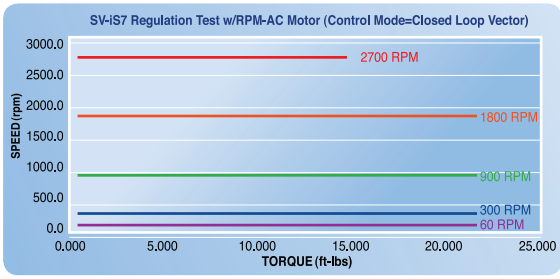


High Performance

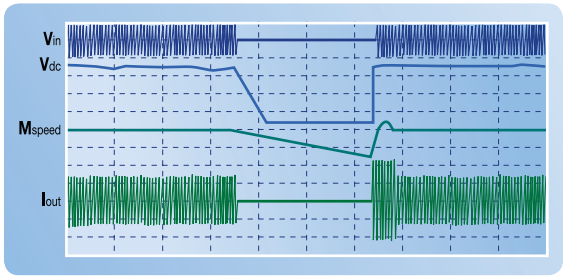
Sensored vector realizing precise speed/torque control

In the entire speed range including zero speed, powerful torque (more than 250%) performance is materialized through receiving Max. 200kHz frequency pulse via encoder-dedicated board.

- Speed control range 1000:1
- Instant Max. torque control capability 250%
- 50Hz speed control response



Ride-through (LV trip delay) for sudden power loss

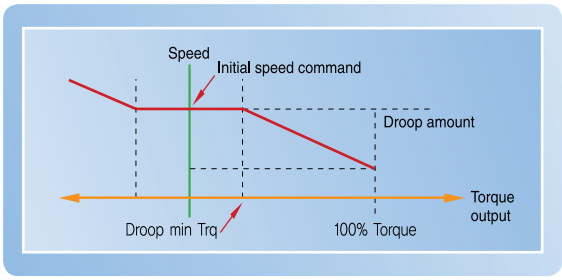


Powerful Performance

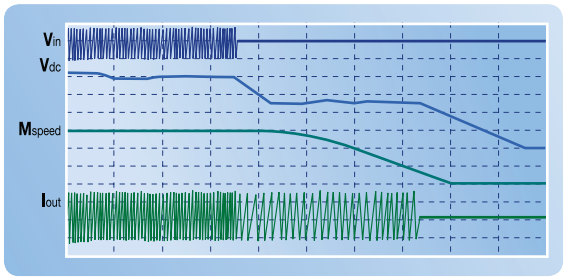
V/F control, V/F PG, slip compensation, sensorless vector control

Automatic torque balance droop control

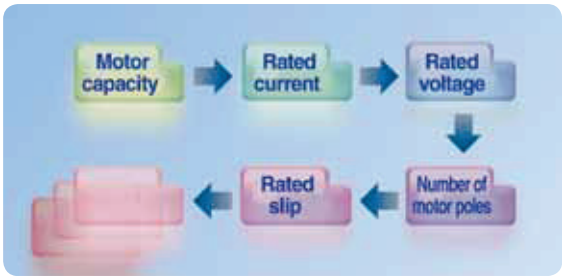
Droop control algorithm adjusts changeable torque driven by speed. This algorithm is easily applicable to open loop linking driving and load sharing driving.



Kinetic Energy Buffering (KEB) for a stable system stop in case of power loss or failure

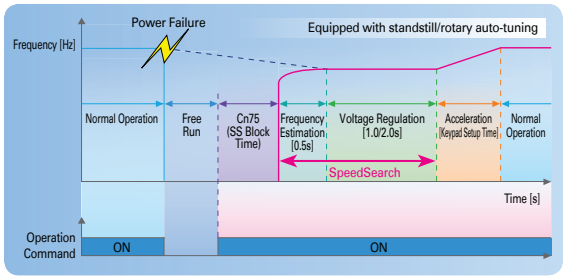


Easy start parameter setting



Flying start function

Drive capable of quick reliable smooth restarts into bi-directional rotating loads.



Power and flux braking for maximum deceleration

Safety Option

The Safety input function meets EN ISO 13849-1 PLd and EN 61508 SIL2 (EN60204-1, stop category 0).

This feature is standard and enables compliance with current safety standards.

iS7 is flexible because it is easily expandable.

Flexibility Expansion

* 1) Extension I/O-2 is only dedicated for WEB(Winder) customized models.
* 2) In order to use position control and synchronous options, customer have to purchase that customized product or to install customized main software.
* 3) Below 22kW : Default Built-in Basic I/O
  Above 30kW : Default Built-in Isolation I/O

* More information about the options, refer to the 22Page.

Conduit kit option

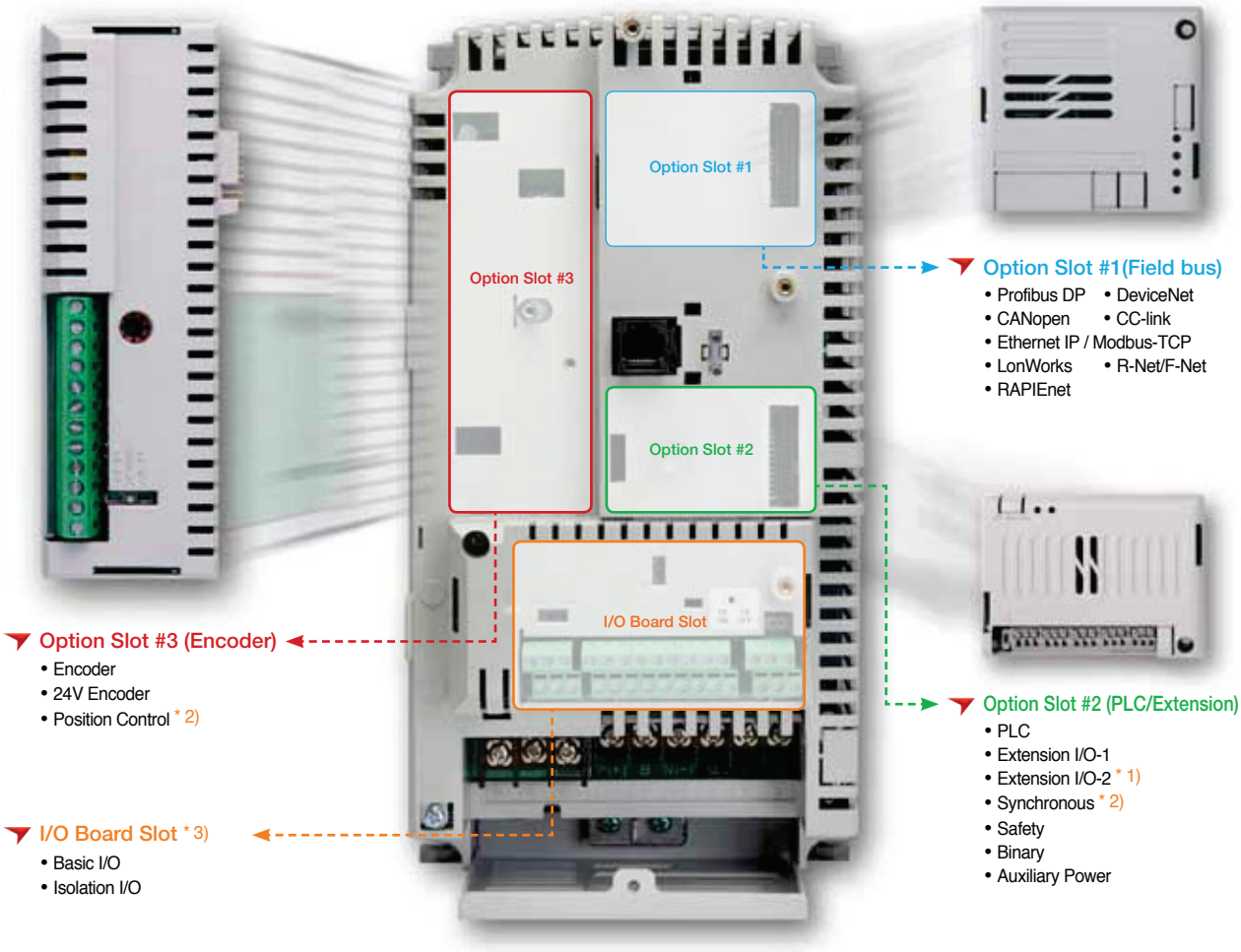
- Acquired UL open type & enclosed type1 certification
  * UL open type is offered as default
  * UL enclosed type1 needs conduit kit(option) installation
- 0.75~75kW (1~100HP)

Flange Option

- The heat sink can be mounted outside of the panel in case the space is limited.
- 0.75~75kW (1~100HP)

User-Friendly Options

Diverse communication options, expansion I/O options, PLC options, encoder options, IP54 enclosure options



Option Slot #1(Field bus)

- Profibus DP
- DeviceNet
- CANopen
- CC-link
- Ethernet IP / Modbus-TCP
- LonWorks
- R-Net/F-Net
- RAPIEnet

Option Slot #3 (Encoder)

- Encoder
- 24V Encoder
- Position Control * 2)

Option Slot #2 (PLC/Extension)

- PLC
- Extension I/O-1
- Extension I/O-2 * 1)
- Synchronous * 2)
- Safety
- Binary
- Auxiliary Power

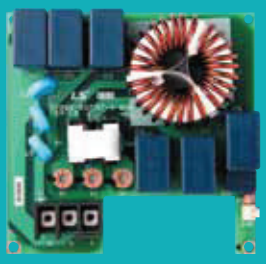
I/O Board Slot * 3)

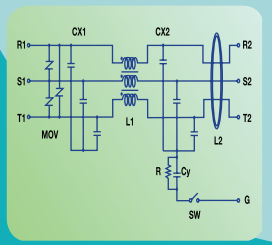
- Basic I/O
- Isolation I/O

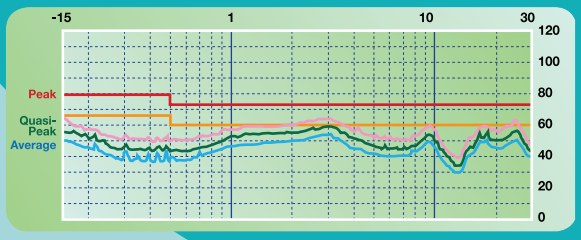
iS7 is convenient because it has a user friendly interface.

Convenience Environment

- EMC filter (in conformity with EN61800-3) built-in for protection from excessive electronic distortion



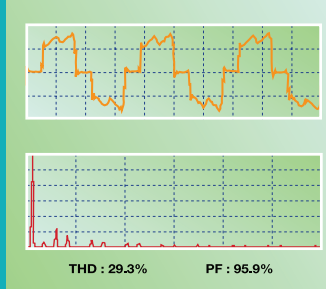




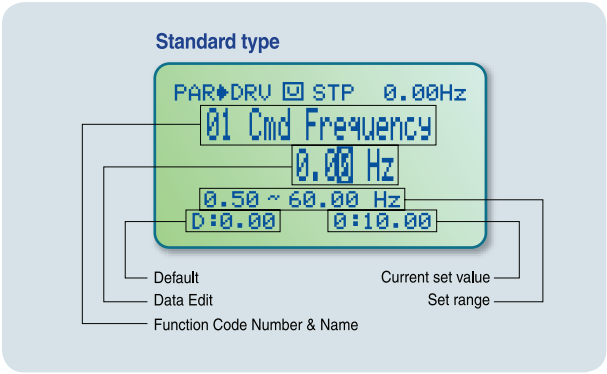
- DC reactor built-in for harmonic reduction and power factor improvement

Overloading rate	110% (VT rated standard)
THD	18 ~ 37%
power factor	94 ~ 96%
IP Level	IP21
Insulation Class	155℃ (300˚F)

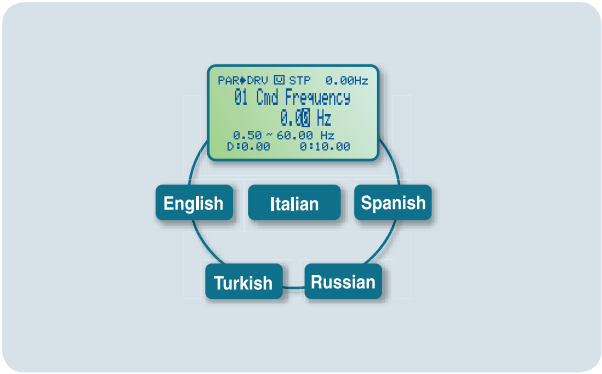
Input current and THD analysis



Widened graphic LCD keypad

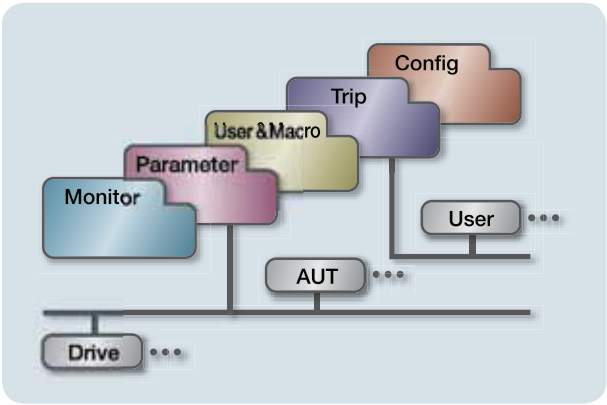


Multi-language support (5 languages)

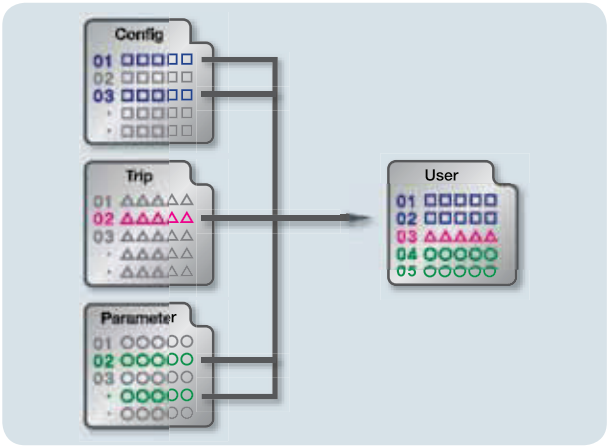


Convenience through User-friendly Interface

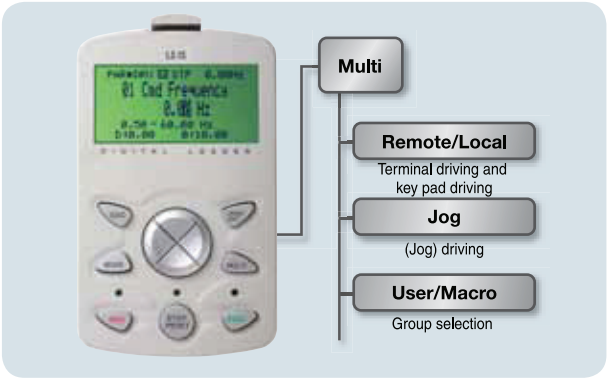
Efficient architecture of 5-mode 15-parameter groups

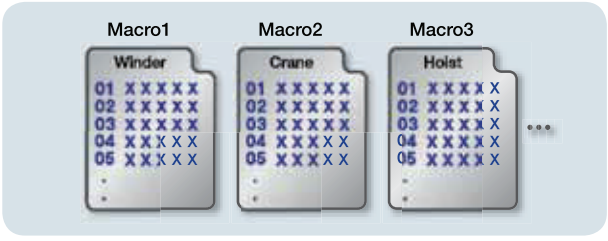


User & macro group support



Multi-function key





Protective functions dedicated motor control

iS7 iS7 is competitive because it is applicable to various industrial fields.

Application

Variety

Warping/Beaming Machine
- Encoder feedback
- Tension control with built-in PID
- (Winding)
- Jog operation
- Anti-rollback

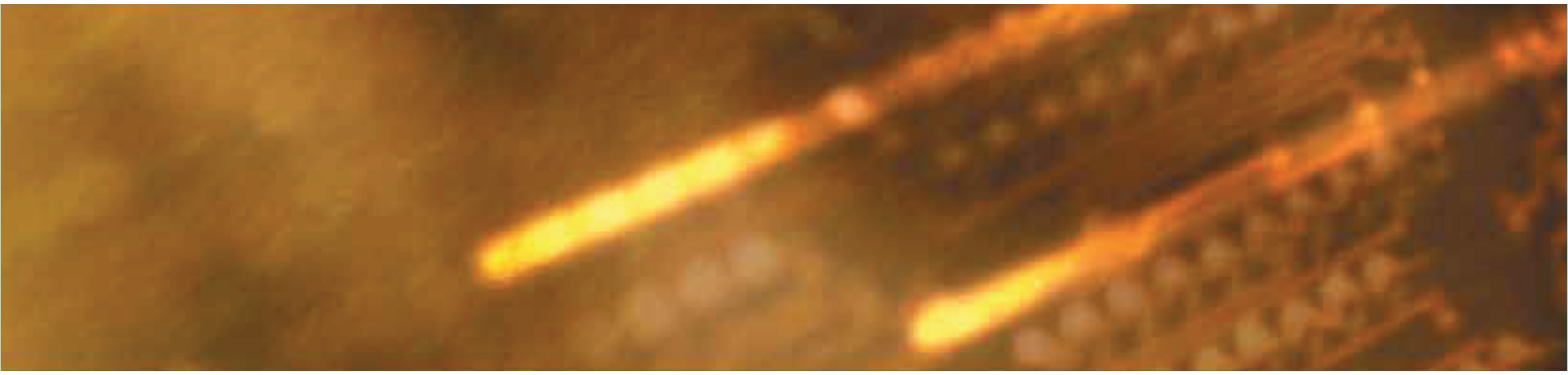
Laminating Machine
- Tension control with dancer feedback
- Diameter estimator winding
- Positive/negative taper
- Constant linear speed control

Wire Drawing Machine
- Capstan operation with sensorless
- Tension control with dancer feedback
- Diameter estimator winding
- Skip function
- Constant linear speed control

Tire Line
- Tag time reduction (Fast response time)
- Tension control with draw function
- Jog operation
- C3 conformal coating
- IP54 enclosure

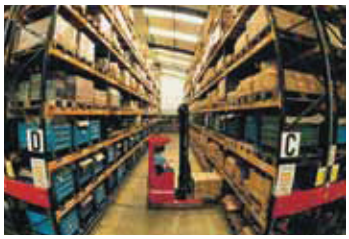
Elevator
- Elevator optimized brake control
- Zero speed control (with encoder)
- Over speed check function
- Elevator master function (with PLC option)
- Ideal S curve (for comfortable driving)

Lift
- Joystick function
- Soft start & stop
- Over speed check function
- Stationary torque holding
- Dual motor control



Crane/Hoist
- Sensorless control
- Weight load brake control function
- Optimized load balancing
- Customized DB unit

Parking Facility
- Low speed torque control
- Powerful starting torque
- 2nd source for Vertical and horizontal transverse sequential motor control



Automated Warehouse
- Smooth deceleration and precise target layer stops with powerful torque
- Real-time monitoring with Driveview7

Press Machine
- Peak current limit
- Inhibit regenerative operation

Washing Machine/extractor
- Powerful laundry property with strong torque
- Effective deceleration with power braking & flux braking
- High speed operation with optimized algorithm

Air Compressor
- Optimized operation with enhanced PID algorithm
- Energy saving with sleep & wake up function
- Soft start/stop function

Model and Type

Motor Rating	3-Phase 200V Class	3-Phase 400V Class
0.75kW	SV0008 iS7-2NO(F)(D)	SV0008 iS7-4NO(F)(D)
1.5kW	SV0015 iS7-2NO(F)(D)	SV0015 iS7-4NO(F)(D)
2.2kW	SV0022 iS7-2NO(F)(D)	SV0022 iS7-4NO(F)(D)
3.7kW	SV0037 iS7-2NO(F)(D)	SV0037 iS7-4NO(F)(D)
5.5kW	SV0055 iS7-2NO(F)(D)	SV0055 iS7-4NO(F)(D)
7.5kW	SV0075 iS7-2NO(F)(D)	SV0075 iS7-4NO(F)(D)
11kW	SV0110 iS7-2NO(F)(D)	SV0110 iS7-4NO(F)(D)
15kW	SV0150 iS7-2NO(F)(D)	SV0150 iS7-4NO(F)(D)
18.5kW	SV0185 iS7-2NO(F)(D)	SV0185 iS7-4NO(F)(D)
22kW	SV0220 iS7-2NO(F)(D)	SV0220 iS7-4NO(F)(D)
30kW	SV0300 iS7-2SO	SV0300 iS7-4NO(D)
37kW	SV0370 iS7-2SO	SV0370 iS7-4NO(D)
45kW	SV0450 iS7-2SO	SV0450 iS7-4NO(D)
55kW	SV0550 iS7-2SO	SV0550 iS7-4NO(D)
75kW	SV0750 iS7-2SO	SV0750 iS7-4NO(D)
90kW		SV0900 iS7-4SOD
110kW		SV1100 iS7-4SOD
132kW		SV1320 iS7-4SOD
160kW		SV1600 iS7-4SOD
185kW		SV1850iS7-4SOD
220kW		SV2200iS7-4SOD
280kW		SV2800iS7-4SO
315kW		SV3150iS7-4SO
375kW		SV3750iS7-4SO

※ (F) : Built-in EMC(F) or Non-EMC(Blank) selectable
※ (D) : Built-in DCR(F) or Non-Reactor(Blank) selectable
※ Non DCR products are provided warranty service when used in CT (Heavy Duty) load rating only.
※ Please request LSIS sale person for UL Type12(IP54) / Web customized product,

SV	0008	iS7	-	2	N	O	F	D	W

SV — LS Drive Starvert Series

0008 — Capacity of Applied Motor

0008	0.75 [kW]
0015	1.5 [kW]
0022	2.2 [kW]
0037	3.7 [kW]
0055	5.5 [kW]
0075	7.5 [kW]
0110	11 [kW]
0150	15 [kW]
0185	18.5 [kW]
0220	22 [kW]
0300	30 [kW]
0370	37 [kW]
0450	45 [kW]
0550	55 [kW]
0750	75 [kW]
0900	90[kW]
1100	110[kW]
1320	132[kW]
1600	160[kW]
1850	185kW
2200	220kW
2800	280kW
3150	315kW
3750	375kW

iS7 — Series Name

2 — Input Voltage

2	3-Phase 200~230[V]
4	3-Phase 380~480[V]

N — Keypad

N	NON
S	GLCD (Graphic Loader)

O — UL

O	Open
E	Enclosed UL Type 1 *1)
P	Enclosed UL Type 12

F — Filter

Blank	NON
F	EMC Filter

D — DC Reactor

Blank	NON
D	DC Reactor
R	Braking Resistor *2)

W — Customized Model

Blank	Standard
W	WEB (Winder)
S	Position/ Synchronous
T	Safety
V	Classification

*1) Enclosed UL Type 1 is only satisfied with Conduit Option.
Applied Capacity: 0.75~75kW
*2) Built-in braking resistor product is an option of a winder dedicated iS7
Applied Capacity: 200V/400V 0.75~3.7kW

Specification

■ Rated Input and Output: Input voltage of 200V class (0.75~22kW)

Type: SV □□□□ iS7-2 □			0008	0015	0022	0037	0055	0075	0110	0150	0185	0220
Motor Applied *1)		[HP]	1	2	3	5	7.5	10	15	20	25	30
		[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Rated Output	Rated Capacity [kVA] *2)		1.9	3.0	4.5	6.1	9.1	12.2	17.5	22.9	28.2	33.5
	Rated Current [A] *3)	CT	5	8	12	16	24	32	46	60	74	88
		VT	8	12	16	24	32	46	60	74	88	124
	Output Frequency [Hz]		0 ~ 400 [Hz] *4)									
	Output Voltage [V]		3-phase 200 ~ 230V *5)									
Rated Input	Available Voltage [V]		3-phase 200 ~ 230 VAC (-15% ~ +10%)									
	Frequency [Hz]		50 ~ 60 [Hz] (±5%)									
	Rated Current [A]	CT	4.3	6.9	11.2	14.9	22.1	28.6	44.3	55.9	70.8	85.3
		VT	6.8	10.6	14.9	21.3	28.6	41.2	54.7	69.7	82.9	116.1

■ 2.1.2 Rated Input and Output: Input voltage of 200V class (30~75kw)

Type: SV □□□□ iS7-2□			0300	0370	0450	0550	0750	-	-	-	-	-
Motor Applied *1)		[HP]	40	50	60	75	100	-	-	-	-	-
		[kW]	30	37	45	55	75	-	-	-	-	-
Rated Output	Rated Capacity [kVA] *2)		46	57	69	84	116	-	-	-	-	-
	Rated Current [A] *3)	CT	116	146	180	220	288	-	-	-	-	-
		VT	146	180	220	288	345	-	-	-	-	-
	Output Frequency [Hz]		0 ~ 400 [Hz] *4) (Sensorless -1: 0 ~ 300Hz, Sensorless -2, Vector. 0 ~ 120Hz)									
	Output Voltage [V]		3-phase 200 ~ 230V *5)									
Rated Input	Available Voltage [V]		3-phase 200 ~ 230 VAC (-15% ~ +10%)									
	Input Frequency		50 ~ 60 [Hz] (±5%)									
	Rated Current [A]	CT	121	154	191	233	305	-	-	-	-	-
		VT	152	190	231	302	362	-	-	-	-	-

■ Rated Input and Output: Input voltage of 400V class (0.75~22kW)

Type: SV □□□□ iS7-4 □			0008	0015	0022	0037	0055	0075	0110	0150	0185	0220
Motor Applied *1)		[HP]	1	2	3	5	7.5	10	15	20	25	30
		[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Rated Output	Rated Capacity [kVA] *2)		1.9	3.0	4.5	6.1	9.1	12.2	18.3	22.9	29.7	34.3
	Rated Current [A] *3)	CT	2.5	4	6	8	12	16	24	30	39	45
		VT	4	6	8	12	16	24	30	39	45	61
	Output Frequency [Hz]		0 ~ 400 [Hz] *4)									
	Output Voltage [V]		3-phase 380 ~ 480V *5)									
Rated Input	Available Voltage [V]		3-phase 380 ~ 480 VAC (-15% ~ +10%)									
	Frequency		50 ~ 60 [Hz] (±5%)									
	Rated Current [A]	CT	2.2	3.6	5.5	7.5	11.0	14.4	22.0	26.6	35.6	41.6
		VT	3.7	5.7	7.7	11.1	14.7	21.9	26.4	35.5	41.1	55.7

*1) Motor Applied indicates the maximum capacity of a standard 4 pole OTIS-LG motor.
*2) Rated Capacity: the input capacity of a 200V class is based on 220V and that of a 400V class is based on 440V. The current rating is based on CT current.
*3) The output of rated current is limited according to the setting of the carrier frequency (CON-04).
*4) You can set the frequency at up to 300Hz by selecting 3, 4 Sensorless-1, Sensorless-2 as the control mode (DRV-09 Control Mode).
*5) The maximum output voltage does not go over the supplied power voltage. You can select the output voltage as you want below the supplied power voltage.

Specifications

Rated Input and Output: Input voltage of 400V class (30~375kW)

Type: SV □□□□ iS7-4 □			0300	0370	0450	0550	0750	0900	1100	1320	1600	1850	2200	2850	3150	3750
Motor Applied *1)		[HP]	40	50	60	75	100	120	150	180	225	250	300	375	420	500
		[kW]	30	37	45	55	75	90	110	132	160	185	220	285	315	375
Rated Output	Rated Capacity [kVA] *2)		46	57	69	84	116	139	170	201	248	286	329	416	467	557
	Rated Current [A] *3)	CT	61	75	91	110	152	183	223	264	325	370	432	547	613	731
		VT	75	91	110	152	183	223	264	325	370	432	547	613	731	877
	Output Frequency [Hz]		0 ~ 400 [Hz] (Sensorless-1: 0 ~ 300Hz, Sensorless-2, Vector: 0 ~ 120Hz) *4)													
	Output Voltage [V]		3-phase 380 ~ 480V *5)													
Rated Input	Available Voltage [V]		3-phase 380 ~ 480 VAC (-15% ~ +10%)													
	Frequency [Hz]		50 ~ 60 [Hz] (±5%)													
	Rated Current [A]	CT	55.5	67.9	82.4	102.6	143.4	174.7	213.5	255.6	316.3	404	466	605	674	798
		VT	67.5	81.7	101.8	143.6	173.4	212.9	254.2	315.3	359,3	463	590	673	796	948

*1) Motor Applied indicates the maximum capacity of a standard 4 pole OTIS-LG motor.

*2) Rated Capacity: the input capacity of a 200V class is based on 220V and that of a 400V class is based on 440V. The current rating is based on CT current.

*3) The output of rated current is limited according to the setting of the carrier frequency (CON-04).

*4) You can set the frequency at up to 300Hz by selecting 3, 4 Sensorless-1, Sensorless-2 as the control mode (DRV-09 Control Mode).

*5) The maximum output voltage does not go over the supplied power voltage. You can select the output voltage as you want below the supplied power voltage.

Control

Control Method	V/F control, V/F PG, slip compensation, sensorless vector control, vector control
Frequency Setting Resolution	Digital command: 0.01Hz Analog command: 0.06Hz (maximum frequency: 60Hz)
Frequency Tolerance	Digital command operation: 0.01% of the maximum frequency Analog command operation: 0.1% of the maximum frequency
V/F Pattern	Linear, double reduction, user V/F
Overload Capacity	CT current rating :150% for 1 minute, 200% for 22 seconds, VT current rating :110% for 1 minute
Torque Boost	Manual torque boost, automatic torque boost

Specifications

Specifications

Operating Method		Selectable among keypad/terminal block/communication operation	
Frequency Setting		Analog: 0 ~ 10[V], -10 ~ 10[V], 0 ~ 20[mA] Digital: keypad	
Operating Function		PID control, up-down operation, 3-wire operation, DC brake, frequency limit, frequency jump, second function, slip compensation, reverse rotation prevention, auto restart, drive by-pass, auto tune flying start, energy buffering, power braking, flux braking, leakage current reduction, MMC, easy start	
Input	Multi-function terminal (8 points) P1 ~ P81 *1)	NPN / PNP selectable	
		Function: forward operation; reverse operation; reset; external trip; emergency stop; jog operation; sequential frequency-high; medium and low; multi-level acceleration and deceleration-high; medium and low; D.C. control during stop; selection of a second motor; frequency increase; frequency decrease; 3-wire operation; change to general operation during PID operation; main body operation during option operation; analog command frequency fixation; acceleration and deceleration stop selectable	
Output	Multi-function open collector terminal	Drive fault output	Below DC 24V 50mA
	Multi-function relay terminal		Below (N.O., N.C.) AC250V 1A, Below DC 30V 1A
	Analog output	0 ~ 10 Vdc (below 10mA): selectable from frequency, current, voltage, direct current voltage	

*1) The Functions for Multi-function terminal available according to IN-65~72 parameter setting of IN Group.

Protective Functions

Trip	Over voltage, low voltage, over current, over current detection, drive overheat, motor thermal protection, phase loss protection, overload protection, communication error, frequency command loss, hardware failure, cooling fan failure, pre-PID failure, no motor trip, external brake trip. etc
Alarm	Stall prevention, overload, diminished load, encoder error, fan failure, keypad command loss, speed command loss.
Instantaneous Interruption *2)	Below CT class 15 msec (VT class 8 msec): operation continues (within rated input voltage, rated output) Over CT class 15 msec (VT class 8 msec): automatic restart

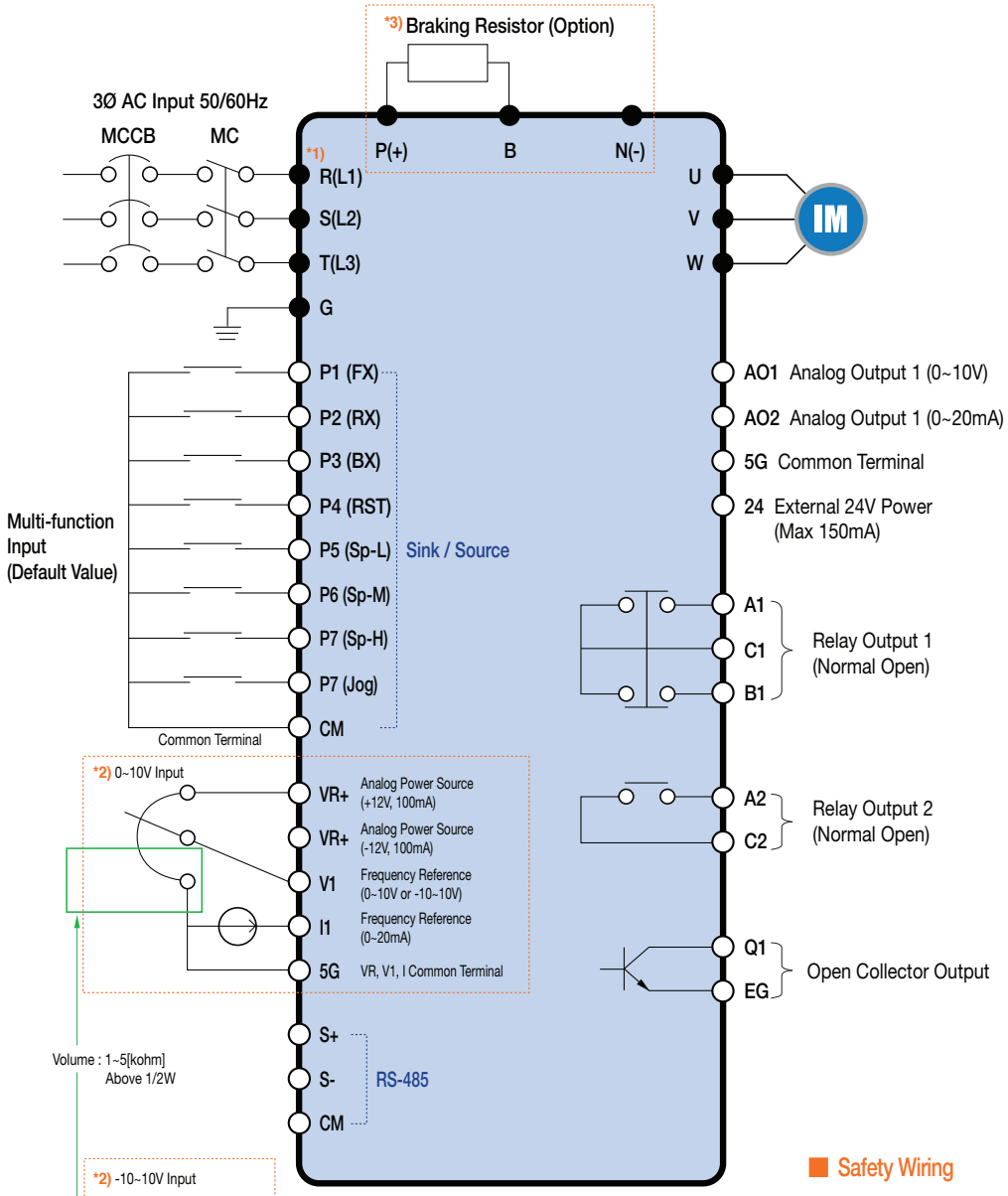
*2) Operation at the CT (Heavy Duty) current rating

Structure and Use Environment

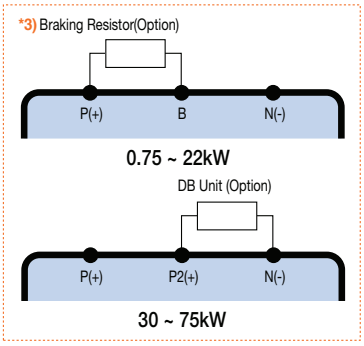
Cooling Method	Forced air blast cooling: 0.75 ~ 15kW (200/400V class), 22kW (400V class) Inhalation cooling: 22 ~ 75kW (200V class), 30 ~ 160kW (400V class)
Protection Structure	Below 75kW: Open Type(IP21), UL enclosed type 1(Option) *3) 30 ~ 75kW 200V, Above 90kW: Open type(IP00) The others (Below 22kW): Enclosed IP54 type, UL enclosed type 12
Surrounding Temperature	CT (Heavy Duty) load: -10 ~ 50℃, (14 ~ 122℉) without ice or frost VT (Normal Duty) load: -10~ 40℃ (14 ~ 104℉) without ice or frost (It is recommended that you use less than 80% load when you use VT load at 50°C (122°F)) IP54 product: -10~40℃ (14~122℉) without ice or frost
Preservation Temperature	-20 ~ 65℃ (-4 ~ 149℉)
Surrounding Humidity	Below 90% RH of relative humidity (with no dew formation)
Altitude, Vibration	Below 1,000m (3280 ft), below 5.9m/sec 2 (19.36 ft/sec 2, 0.6G)
Environment	There should be no corrosive gas, flammable gas, oil mist or dust. Pollution Degree 2 Environment
Conformal Coating	To meet the below IEC standard In the harsh operating environment and to enhance PCB Ass'y life cycle IEC 60721-3-3(3C2) / IEC 60068-2-43 / IEC 60068-2-60

*3) UL Enclosed type 1 with conduit box installed

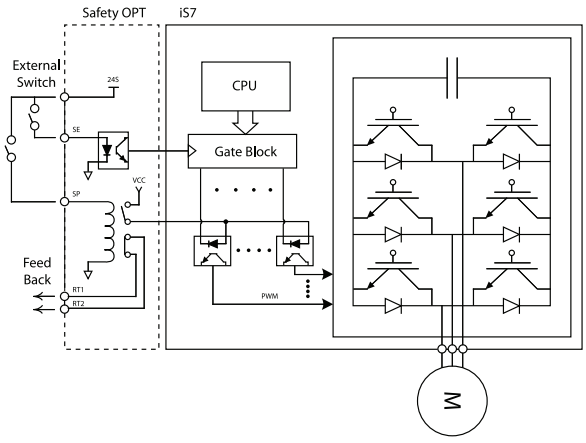
Wiring



*1) "●" Main Power Circuit
"○" Control Circuit

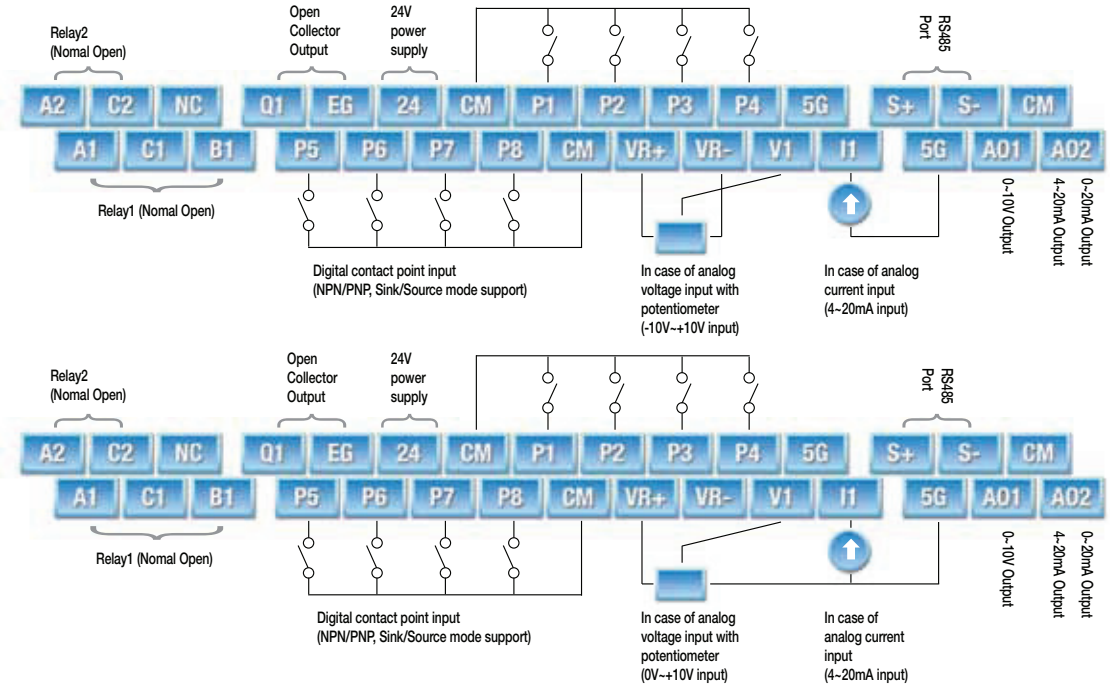


Safety Wiring



Wiring

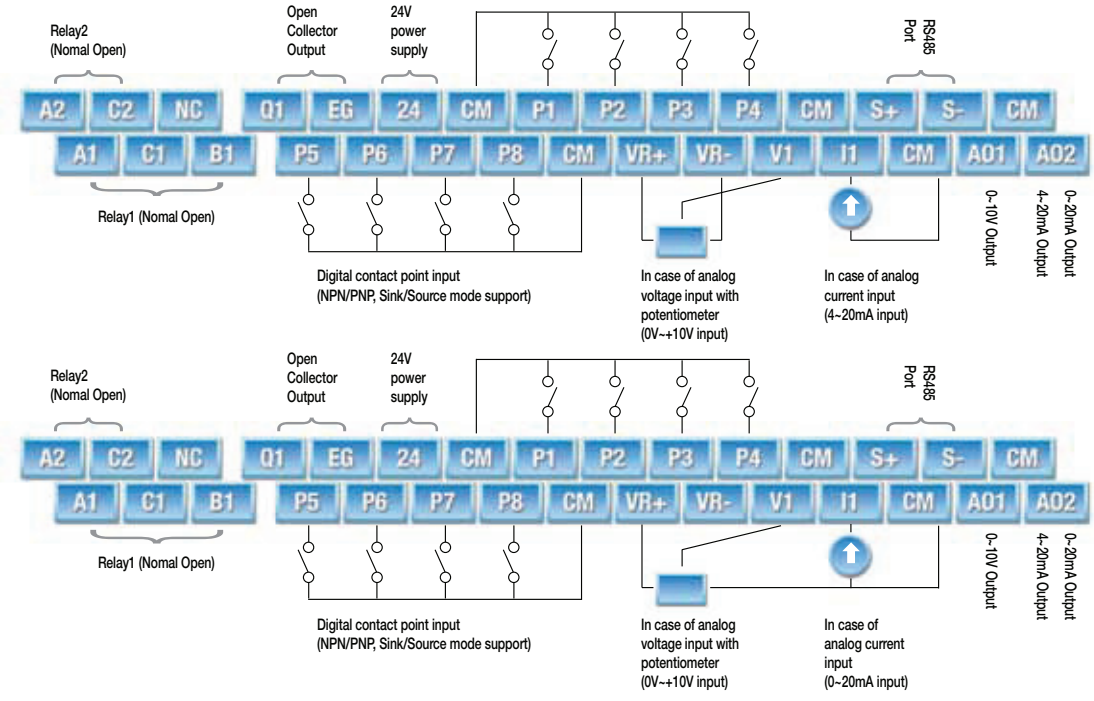
0.75~37kW (Basic I/O)



TR terminal located on the above the right side of terminal block is for the terminal resistor of RS485 communication(120Ω)
We recommend the potentiometer for 1/2W, 1kΩ.

* Description of TR teminal and variable resistence are same as those of insulated I/O.

30~375kW (Isolation I/O)



TR terminal located on the above the right side of terminal
block is for the terminal resistor of RS485 communication(120Ω)

Peripheral Devices

AC Reactor Specifications

Capacity of Drive	Specifications of the AC reactor			
	Heavey Duty		Normal Duty	
	mH	A	mH	A
0008iS7-2	2.13	5.7	1.20	10
0015iS7-2	1.20	10	0.88	14
0022iS7-2	1.88	14	0.56	20
0037iS7-2	0.56	20	0.39	30
0055iS7-2	0.39	30	0.28	40
0075iS7-2	0.28	40	0.20	59
0110iS7-2	0.20	59	0.15	75
0150iS7-2	0.15	75	0.12	96
0185iS7-2	0.12	96	0.10	112
0220iS7-2	0.10	112	0.07	160
0300iS7-2	0.07	160	0.05	200
0370iS7-2	0.05	200	0.044	240
0450iS7-2	0.044	240	0.038	280
0550iS7-2	0.038	280	0.026	360
0750iS7-2	0.026	360	0.02	500
0008iS7-4	8.63	2.8	4.81	4.8
0015iS7-4	4.81	4.8	3.23	7.5
0022iS7-4	3.23	7.5	2.34	10
0037iS7-4	2.34	10	1.22	15
0055iS7-4	1.22	15	1.14	20
0075iS7-4	1.14	20	0.81	30
0110iS7-4	0.81	30	0.61	38
0150iS7-4	0.61	38	0.45	50
0185iS7-4	0.45	50	0.39	58
0220iS7-4	0.39	58	0.287	80
0300iS7-4	0.287	80	0.232	98
0370iS7-4	0.232	98	0.195	118
0450iS7-4	0.195	118	0.157	142
0550iS7-4	0.157	142	0.122	196
0750iS7-4	0.122	196	0.096	237
0900iS7-4	0.096	237	0.081	289
1100iS7-4	0.081	289	0.069	341
1320iS7-4	0.069	341	0.057	420
1600iS7-4	0.057	420	0.042	558
1850iS7-4	0.042	558	0.042	558
2200iS7-4	0.042	558	0.029	799
2800iS7-4	0.029	799	0.029	799
3150iS7-4	0.029	799	0.024	952
3750iS7-4	0.024	952	0.024	952

DC Reactor Specifications

Capacity of Drive	Specifications of the DC reactor	
	mH	A
0300iS7-2	0.24	200
0370iS7-2	0.2	240
0450iS7-2	0.17	280
0550iS7-2	0.12	360
0750iS7-2	0.1	500

Capacity of Drive	Specifications of the DC reactor	
	mH	A
2800iS7-4	0.09	836
3150iS7-4	0.076	996
3750iS7-4	0.64	1195

Peripheral Devices

Dynamic Braking Unit

Voltage	Type	Applied Motor	DB Unit	Dimensions
200V Class	UL type	30 ~ 37 kW	SV370DBU-2U	Refer to the appearance of Group 2
		45 ~ 55 kW	SV550DBU-2U	
		75 kW	SV370DBU-2U, 2 set	
400V Class	Non UL type	30 ~ 37 kW	SV370DBH-4	Refer to the appearance of Group 1
		45 ~ 55 kW	SV075DBH-4	Refer to the appearance of Group 3
		75 kW		
		185 ~ 220 kW	SV2200DB-4 *1)	Refer to the appearance of Group 4
		280 ~ 375 kW	SV2200DB-4, 2 set	
	UL type	75 kW	SV370DBU-4U	Refer to the appearance of Group 2
		90 kW	SV550DBU-4U	
		110 ~ 132 kW	SV750DBU-4U	
		160 kW	SV550DBU-4U, 2 set	
		185 ~ 220 kW	SV750DBU-4U, 2 set	
		280 ~ 375 kW	SV750DBU-4U, 3 Set	

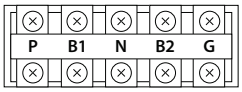
*1): Contact LSIS sales person for 185kW and above.

Terminal arrangement

Group 1

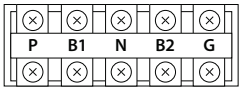
Group 2

Group 3



75kW DB Terminal

Group 4



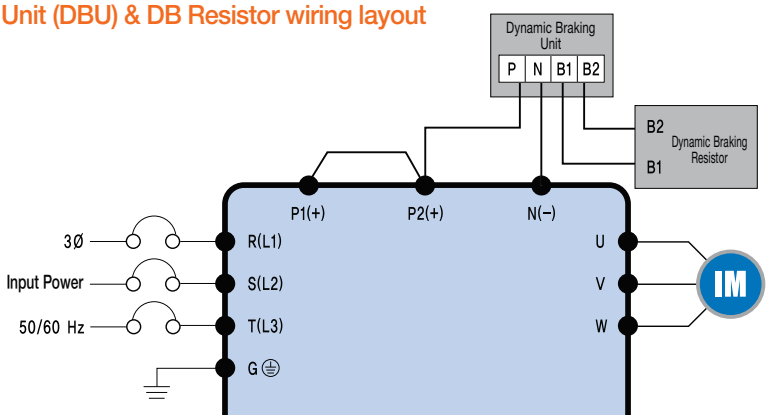
220kW DB Terminal

Terminal	Function
G	Ground Terminal
B2	Terminal for connection with B2 of DBU
B1	Terminal for connection with B1 of DBU
N	Terminal for connection with N of Drive
P	Terminal for connection with P1 of Drive

*Note: READ DBU User manual certainly when selecting DB resistors.

Terminal	Function
P	Terminal for connection with P of Drive
B1	Terminal for connection with B1 of DBU
N	Terminal for connection with N of Drive
B2	Terminal for connection with B2 of DBU
G	Ground Terminal

Dynamic Braking Unit (DBU) & DB Resistor wiring layout

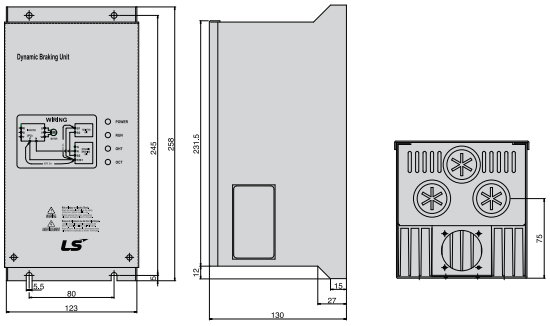


DBU Terminals	Description
B1, B2	Wire correctly refering to diagram. DB Resistors connect with B1,B2 of DB Unit

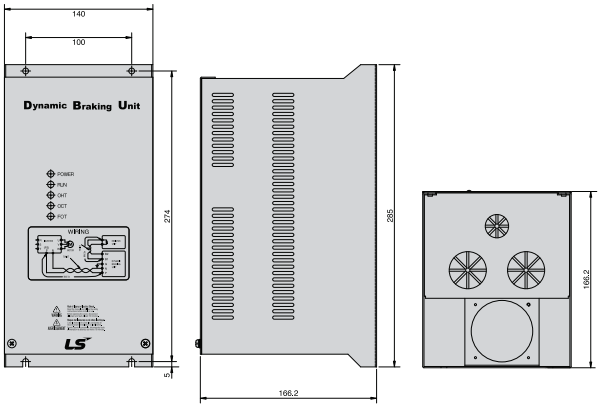
Peripheral Devices

Dimension: Dynamic Braking Unit (DBU)

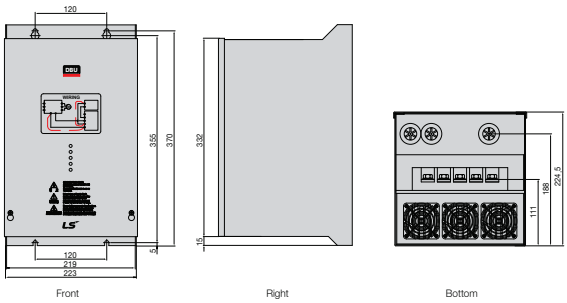
Group 1



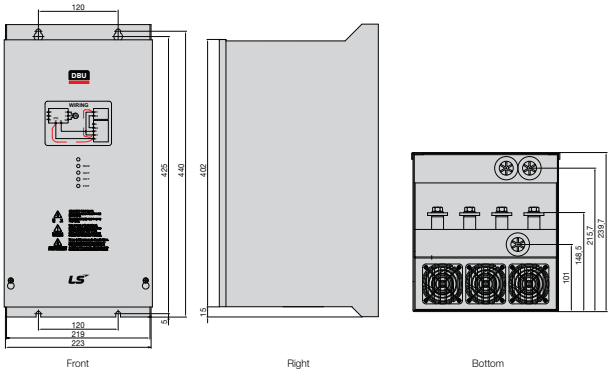
Group 2



Group 3



Group 4



Display Functions

DB Resistors connect with B1, B2 of DB Unit, DBU has 3 LEDs. Red LED which is located in middle displays supplying main power, one Green LED which is right side displays under braking and another green LED which is left side displays Over Heat Trip(OHT).

Displays	Function description
POWER (Red LED)	POWER LED is turned On when main power is supplied. Generally, POWER LED is tum On while main power supplied because DBU is connected with drive
RUN (Green LED)	RUN LED is turned off while DBU is ON by regenerative energy of Motor.
OHT (Green LED)	Under Braking, if the temperature is exceeded over setting value due to overheat of Heatsink, Cut the TURN ON signal of DBU and LED is turned on by working overheat protection function.

Peripheral Devices

Dynamic Braking Resistor (Option)

Following table has reference that DC braking torque: 150%, %ED: 5%, Rating Watt of DBU has to be doubled when %ED is 10%

Voltage Class	Drive Capacity (kW)	150% Braking Torque, 5%ED		
		Resistor [ohm]	Watt [W]	Appearance
200V Class	SV0008iS7-2	150	150	TYPE 1
	SV0015iS7-2	60	300	TYPE 1
	SV0022iS7-2	50	400	TYPE 1
	SV0037iS7-2	33	600	TYPE 2
	SV0055iS7-2	20	800	TYPE 3
	SV0075iS7-2	15	1,200	TYPE 3
	SV0110iS7-2	10	2,400	TYPE 3
	SV0150iS7-2	8	2,400	TYPE 3
	SV0185iS7-2	5	3,600	TYPE 3
	SV0220iS7-2	5	3,600	-
	SV0300iS7-2	5	5,000	-
	SV0370iS7-2	4.5	7,000	-
	SV0450iS7-2	3.5	10,000	-
	SV0550iS7-2	3.0	15,000	-
	SV0750iS7-2	2.5	20,000	-
400V Class	SV0008iS7-4	600	150	TYPE 1
	SV0015iS7-4	300	300	TYPE 1
	SV0022iS7-4	200	400	TYPE 1
	SV0037iS7-4	130	600	TYPE 2
	SV0055iS7-4	85	1,000	TYPE 3
	SV0075iS7-4	60	1,200	TYPE 3
	SV0110iS7-4	40	2,400	TYPE 3
	SV0150iS7-4	30	2,400	TYPE 3
	SV0185iS7-4	20	3,600	TYPE 3
	SV0220iS7-4	20	3,600	TYPE 3
	SV0300iS7-4	16.9	6,400	-
	SV0370iS7-4	16.9	6,400	-
	SV0450iS7-4	11,4	9,600	-
	SV0550iS7-4	11.4	9,600	-
	SV0750iS7-4	8.4	12,800	-
	SV0900iS7-4	4.5	15,000	-
	SV1100iS7-4	3.5	17,000	-
	SV1320iS7-4	3.0	20,000	-
	SV1600iS7-4	2.5	25,000	-
	SV1850iS7-4	2	30,000	-
	SV2200iS7-4	2	30,000	-
	SV2800iS7-4	1.5	40,000	-
	SV3150iS7-4	1	60,000	-
	SV3750iS7-4	1	60,000	-

In case of iS7 90~160kW, Dynamic braking unit for 220kW (SV2200DB-4) needs above listed DB resistor. If Dynamic braking unit (SV075DBH-4) is connected in parallel, use above listed DB resistor in parallel.

Option Slot #1) Fieldbus options

Profibus-DP Card
- Profibus dedicated connector
- Max. 12Mbps communication speed
- Max. 32 stations per segment
- Bus topology
- Enhanced on-line diagnosis

DeviceNet
- Communication speed: 125kbps, 250kbps, 500kbps
- Free/Bus topology
- Max. 64 node connection points
- Max. 500m (1640 ft.) transmission distance (125kbps)

CanOpen Card
- 1Mbps communication speed
- Bus Topology
- Max. 64 node connection points (include master)
- PDO, SDO, Sync, NMC communication support
- Support profile:
  PDO1 (CiA402 drive & motion control device profile)
  PDO3 (LS Profile)

CC-Link Card
- 10Mbps communication speed
- Connecting up to 42 AC drives
- Station type: Remote device station
- 1 connection point for 1 AC drive

Ethernet Card
- Modbus TCP, Ethernet IP Protocol support
- 10Mbps, 100Mbps communication speed
- Half duplex, full duplex support
- Auto negotiation
- Max. 100m(328ft.) transmission distance
- CSMA/CD communication access method

LonWorks
- 78kbps communication speed
- Free/bus topology
- Resistance built-in per topology
- Max. 2700m (8858 ft.) connection distance (bus topology)

R-Net/F-Net Card
- 1Mbps Communication speed
- Manchester Biphase-L Frame synchronization
- Max. 64 node connection points
- Max. 750m transmission distance (segment each)

RAPIEnet Card
- RAPIEnet Protocol support
- 100Mbps communication speed
- Full Duplex support
- High speed link(8 WORD), P2P(2 WORD) support
- Max. 64 connection points
- Topology: Line/Ring topology

Option Slot #2) PLC/Extension Options

PLC Card
- Master-K 120S platform
- Normal input 6 points (Sink/Source selectable), Max. input 14 points when expanded
- Normal output 4 points (N.O. Relay), Max. output 7 points when expanded
- RTC (Real Time Clock)
- KGL WIN operating system

I/O Expansion Card
- Insulated I/O 3 points each
- Ext-1
  Analog voltage (-10~10V) I/O 1 point
  Analog current (0~20mV) I/O 1 point
- Ext-2
  Analog voltage (-10~10V) I/O 2 points
  Analog current (0~20mV) I/O 2 points

Safety Card
- 2-Channel STO function (STO : Safety Torque Off)
- Safety standard certified

Synchronization Option Card
- Closed loop control
- 100kHz Max. input frequency
- Position/Speed synchronization
- Synchronization hold (only slave)
- 15 slaves per master(3 serial - 5 parallel max)
- Open collector output : 26V/100mA (2 points)

Binary Input Card
- Operating frequency setting with digital input (NPN/PNP)
- Max. 16bit digital input (8bit / 12bit / 16bit)
- Frequency setting with Bias-Gain or BCD
- Frequency resolution (0.01Hz~10Hz)
- Digital input filter function Input signal read timing terminal

Auxiliary Power Option
- Power supply via external 200~230VAC when main power is off
- 5Vdc power supply to fieldbus cards and control board
- Support fieldbus options (Ret, CANopen, DeviceNet, LonWorks, Profibus-DP, EtherNet, CC-Link, RAPIEnet)

Option Slot #3) Encoder Options

Encoder Card
- Closed loop control
- Pulse train reference
- 5/12/15 V insulated power supply
- Line driver or open collector
- 200kHz Max. input frequency
- Signal loss detection

24V Encoder Card
- Closed loop control
- Pulse train reference
- 24V insulated power supply
- Line driver or open collector
- 200kHz Max. input frequency
- Signal loss detection

Position Control Option Card
- Closed loop control
- Pulse train reference
- 5/12/15V insulated power supply
- Line driver or open collector
- 200kHz Max. input frequency
- Signal loss detection
- External brake control

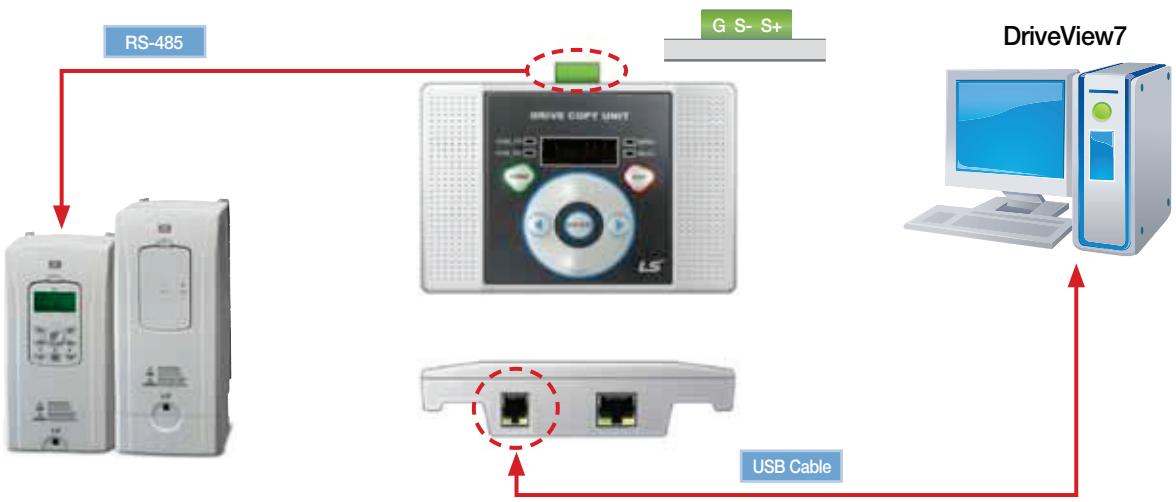
Parameter Copy Unit

Drive Copy Unit (UX-07V1)

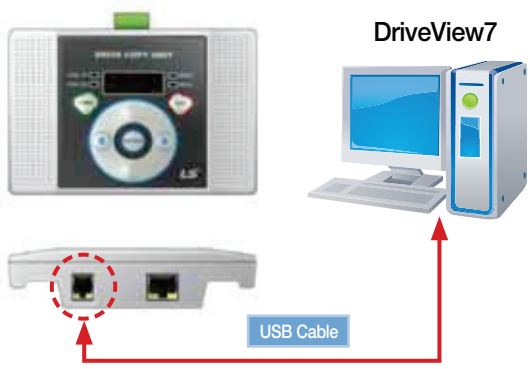
- Support Products: iS7, iE5
- Support function: Parameter copy, RS485 converter
- Copy speed: 9,600bps (iE5) / 19,200bps (iS7)
- Max. save paramete: 5 Sets
- Converter support speed: 1,200 / 2,400 / 9,600 / 19,200 / 38,400 bps

iS7 Parameter Copy Unit

Drive ⟷ Parameter copy unit ⟷ PC



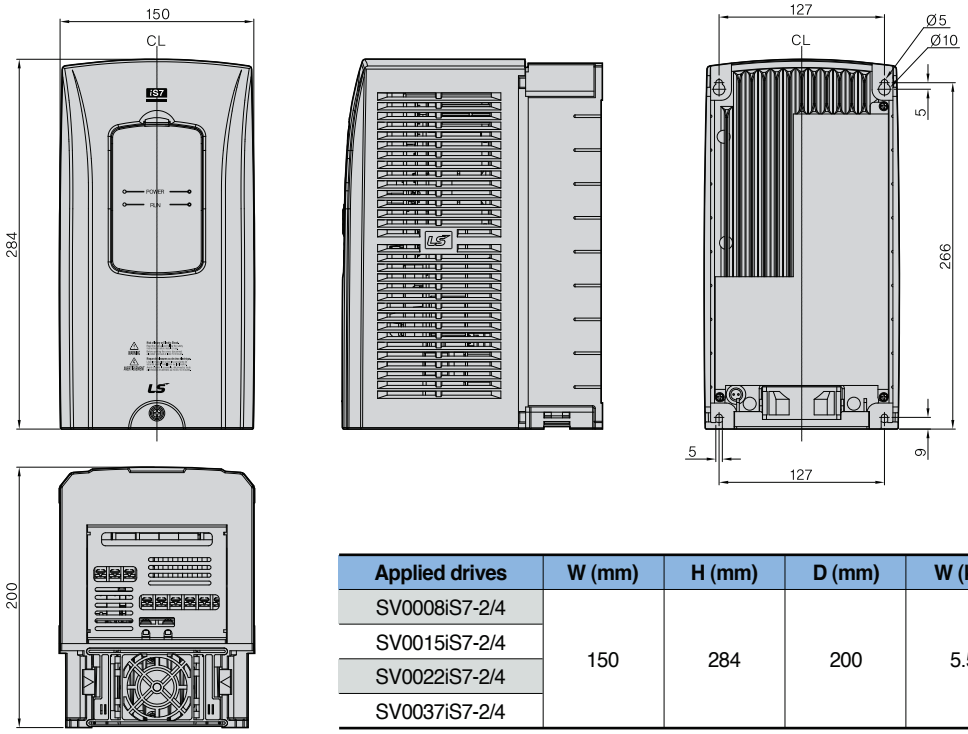
Parameter copy unit ⟷ PC



Parameter copy unit ⟷ Drive

Dimensions

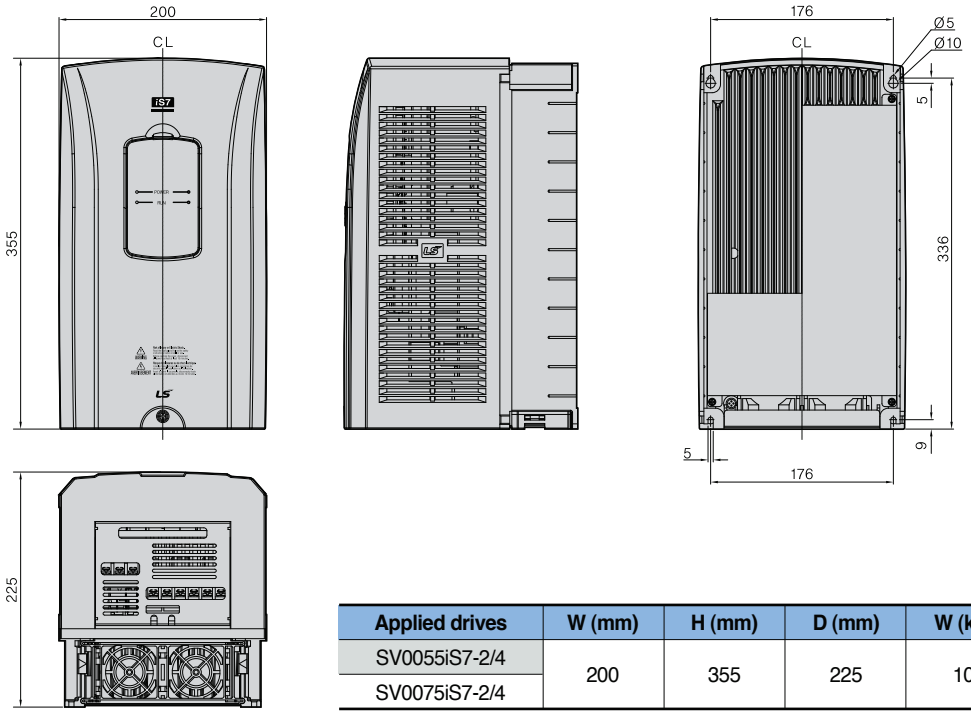
SV0008 ~ 0037iS7 (200V/400V Class)



Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0008iS7-2/4	150	284	200	5.5
SV0015iS7-2/4				
SV0022iS7-2/4				
SV0037iS7-2/4				

* The weight above represents the total weight including EMC filter and DCL.

SV0055 ~ 0075iS7 (200V/400V Class)

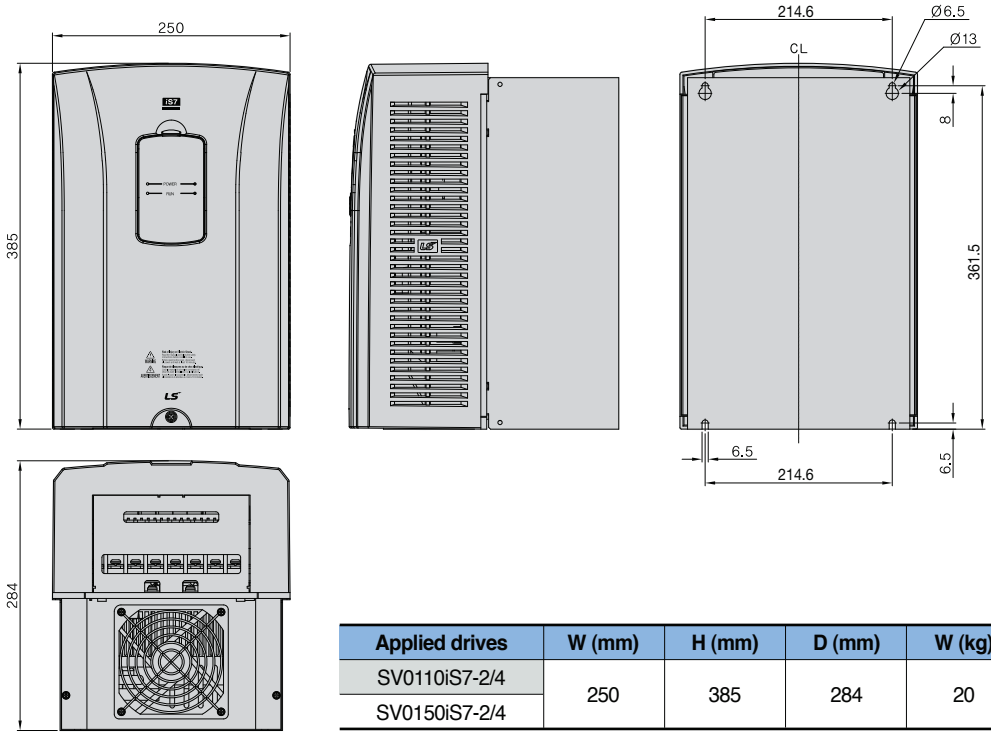


Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0055iS7-2/4	200	355	225	10
SV0075iS7-2/4				

* The weight above represents the total weight including EMC filter and DCL.

Dimensions

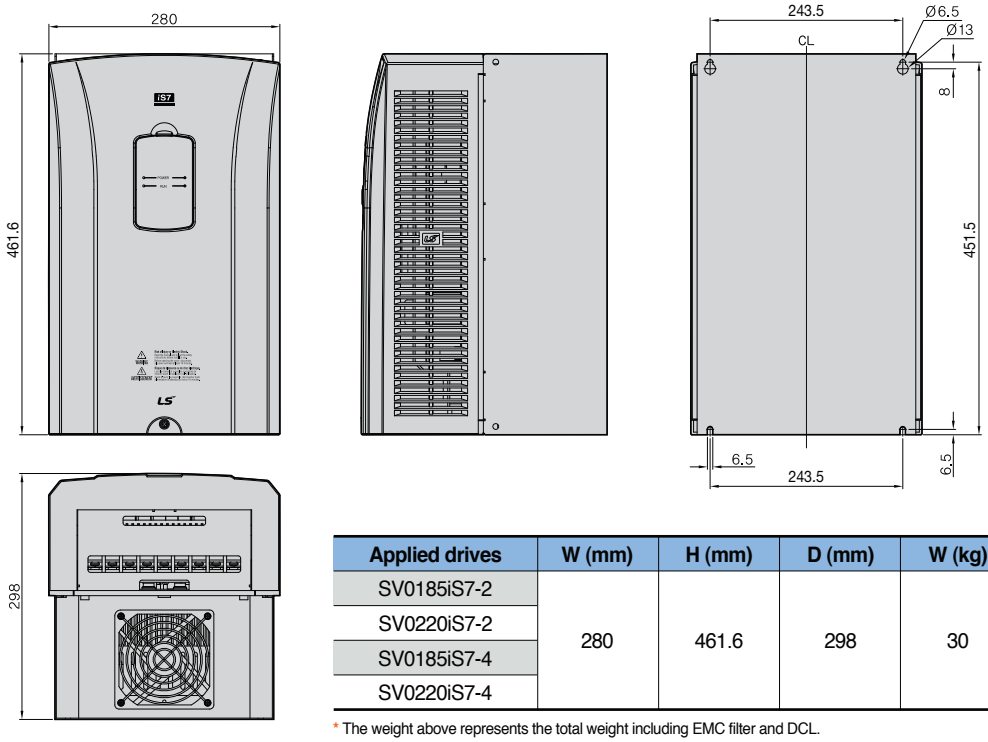
■ SV0110 ~ 0150iS7 (200V/400V Class)



Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0110iS7-2/4	250	385	284	20
SV0150iS7-2/4				

* The weight above represents the total weight including EMC filter and DCL.

■ SV0185 ~ 0220iS7 (200V/400V Class)

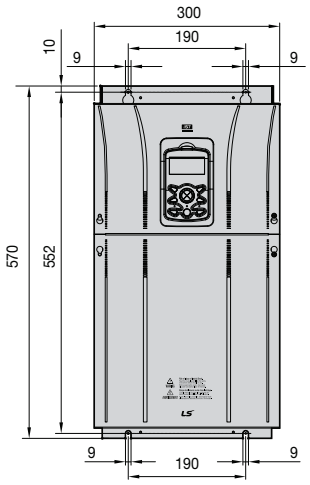


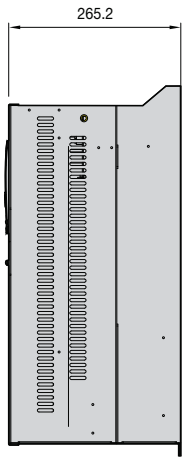
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0185iS7-2	280	461.6	298	30
SV0220iS7-2				
SV0185iS7-4				
SV0220iS7-4				

* The weight above represents the total weight including EMC filter and DCL.

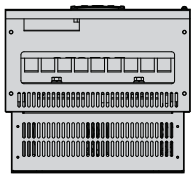
Dimensions

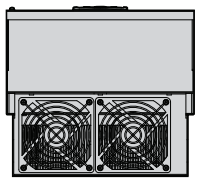
SV0300iS7 (200V Class)



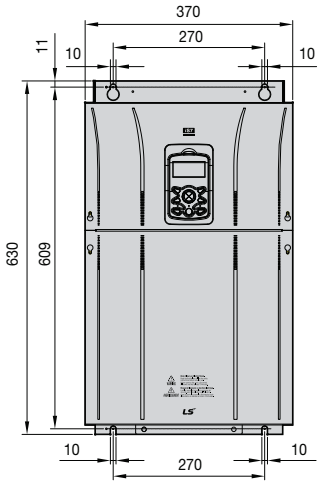


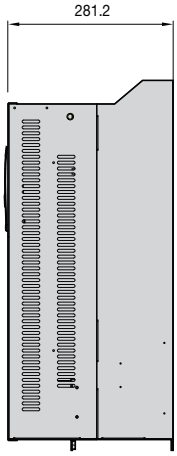
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0300iS7-2	300	570	265.2	29.5



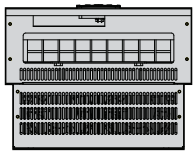


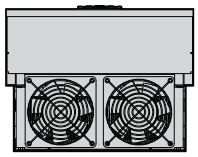
SV0370 ~ 0450iS7 (200V Class)



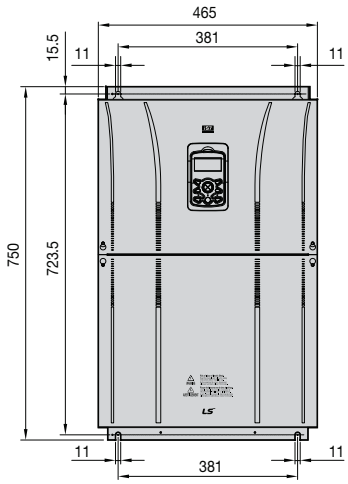


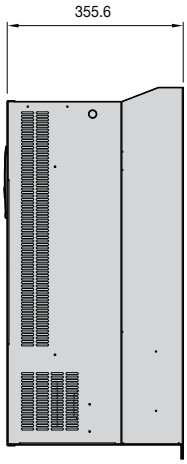
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0370iS7-2	370	630	281.2	44
SV0450iS7-2				



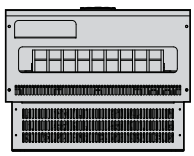


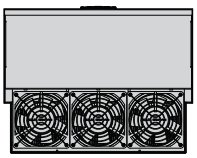
SV0550 ~ 0750iS7 (200V Class)





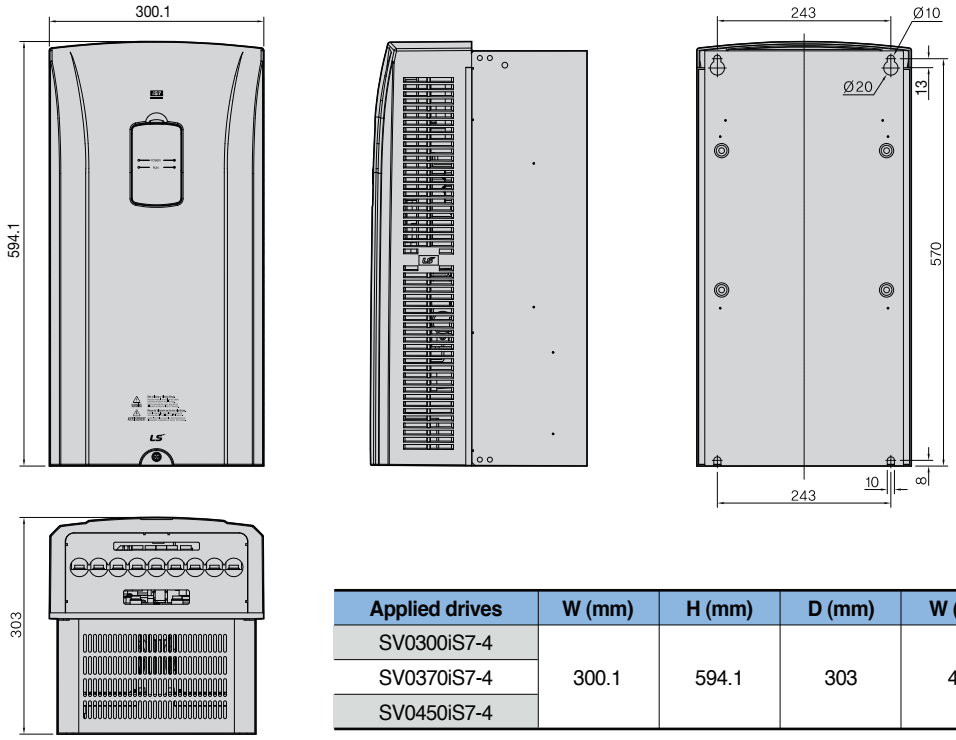
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0550iS7-2	465	750	355.6	72.5
SV0750iS7-2				





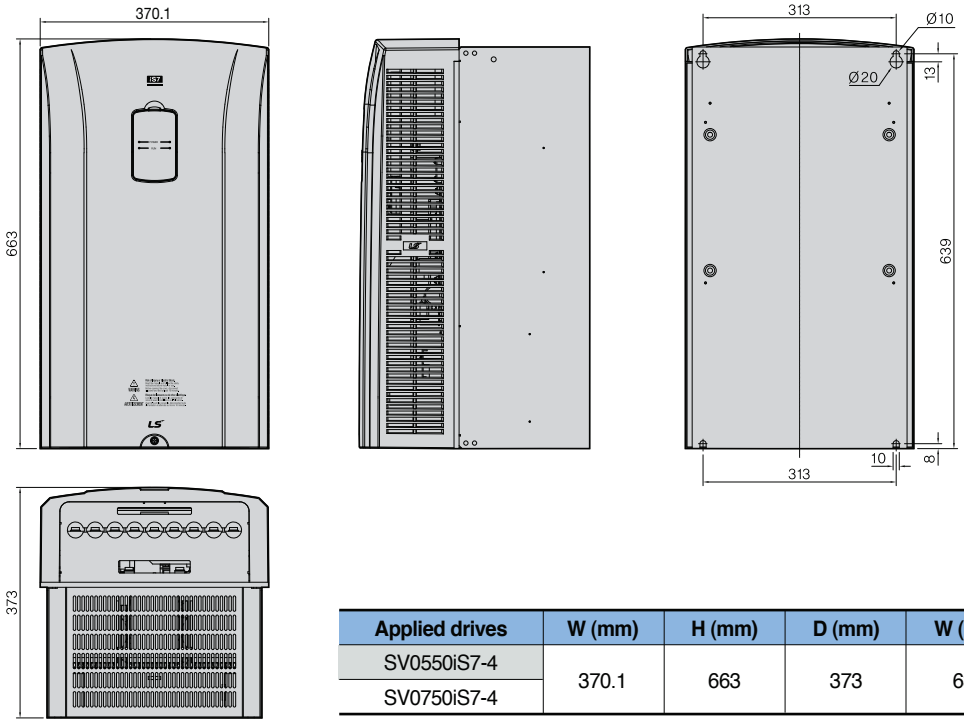
Dimensions

■ SV0300 ~ 0450iS7 (400V Class)



Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0300iS7-4	300.1	594.1	303	41
SV0370iS7-4				
SV0450iS7-4				

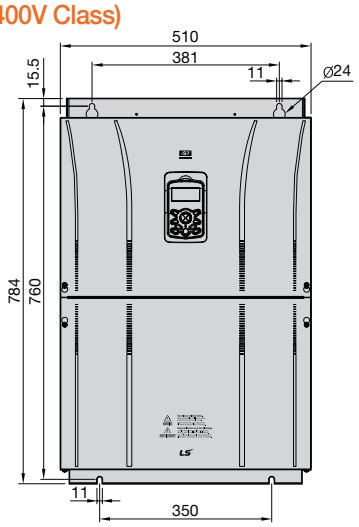
■ SV0550 ~ 0750iS7 (400V Class)

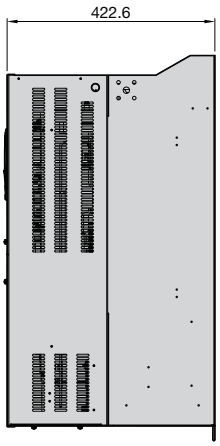


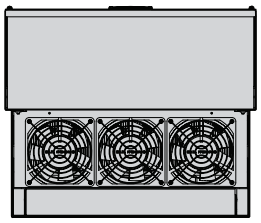
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0550iS7-4	370.1	663	373	63
SV0750iS7-4				

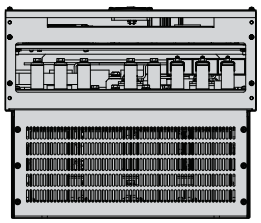
Dimensions

SV0900 ~ 1100iS7 (400V Class)



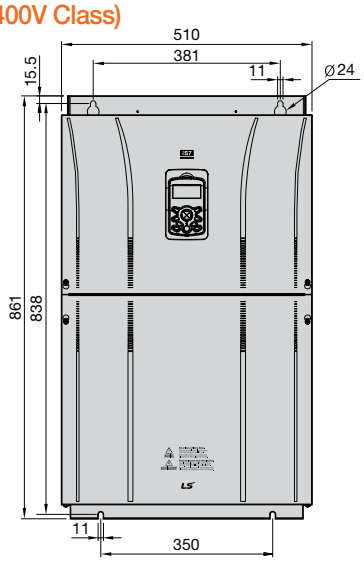


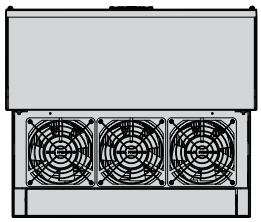


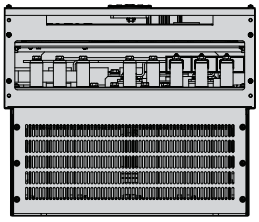


Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0900iS7-4	510	784	423	101
SV1100iS7-4				

SV1320 ~ 1600iS7 (400V Class)



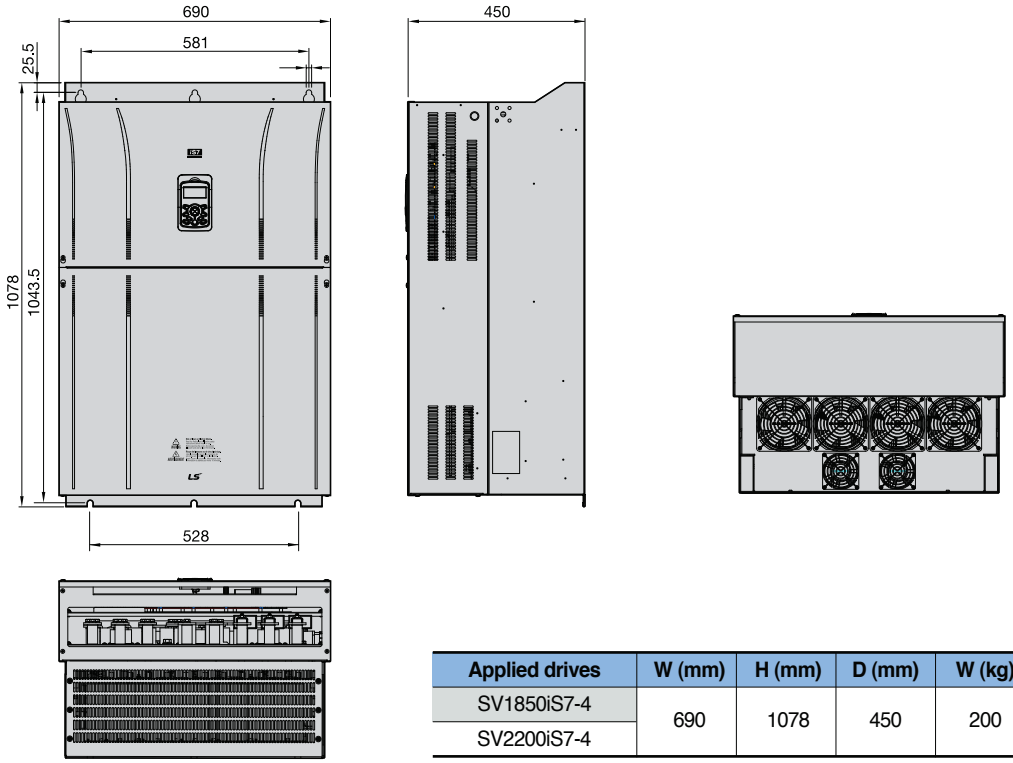




Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV1320iS7-4	510	861	423	114
SV1600iS7-4				

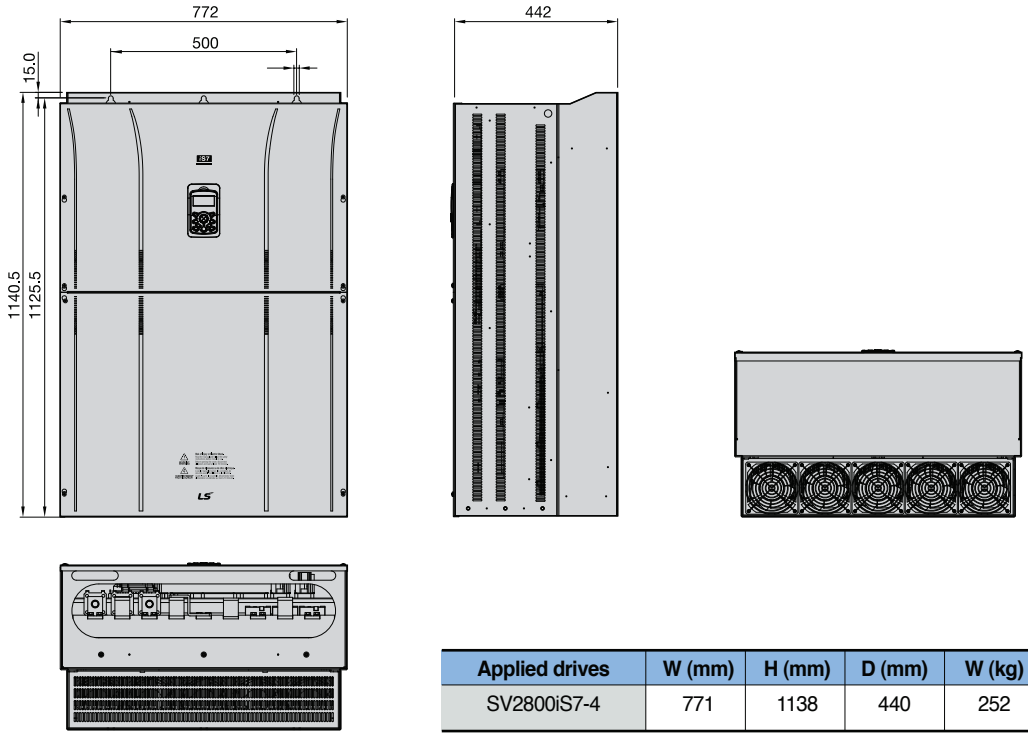
Dimensions

■ SV1850 ~ SV2200iS7 (400V Class)



Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV1850iS7-4	690	1078	450	200
SV2200iS7-4				

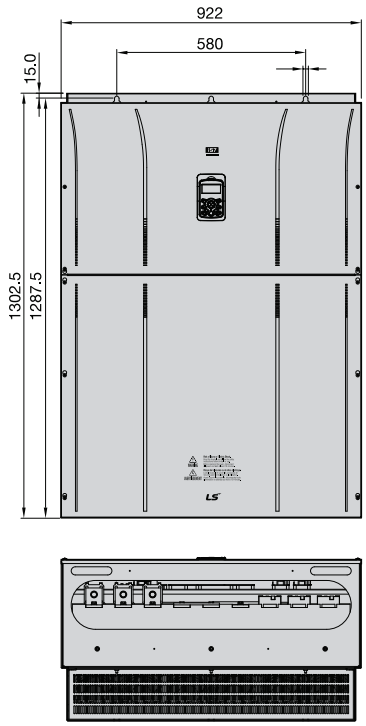
■ SV2800iS7 (400V Class)

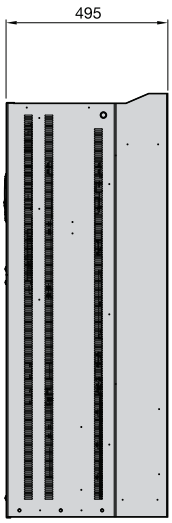


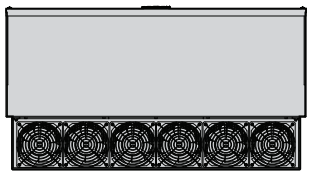
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV2800iS7-4	771	1138	440	252

Dimensions

SV3150 ~ 3750iS7 (400V Class)



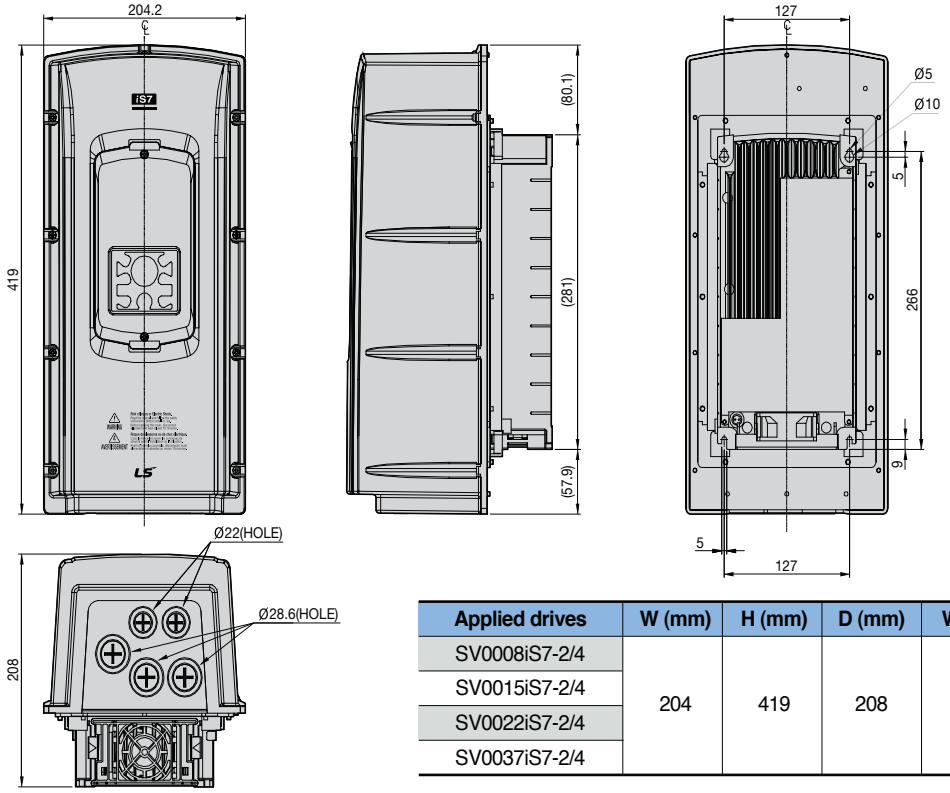




Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV3150iS7-4	922	1302.5	495	352
SV3750iS7-4				

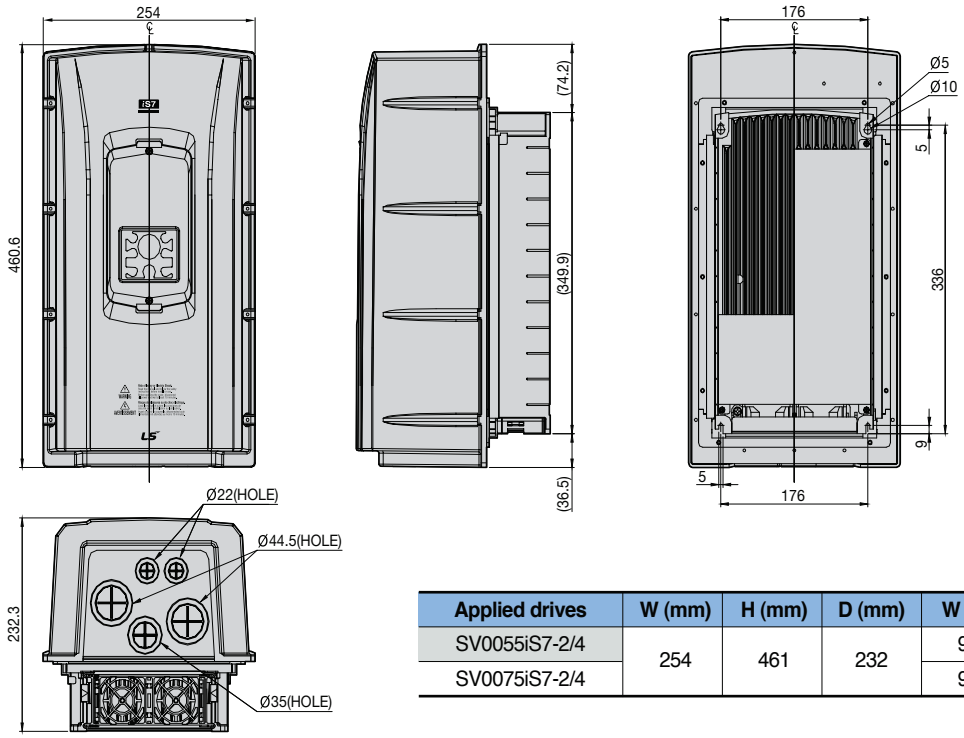
Dimensions (IP54)

SV0008 ~ 0037iS7 (200V/400V Class)



Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0008iS7-2/4	204	419	208	6.7
SV0015iS7-2/4				
SV0022iS7-2/4				
SV0037iS7-2/4				

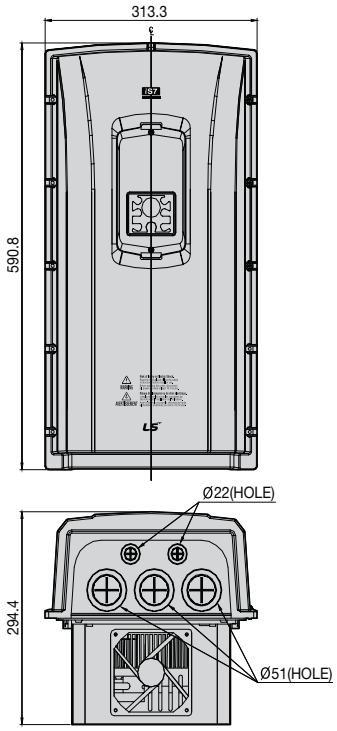
SV0055 ~ 0075iS7 (200V/400V Class)

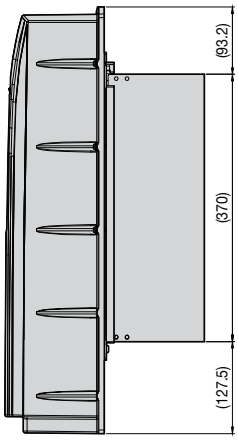


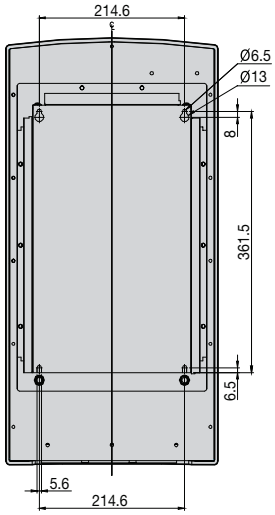
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0055iS7-2/4	254	461	232	9.5
SV0075iS7-2/4				9.6

Dimensions (IP54)

SV0110 ~ 0150iS7 (200V/400V Class)

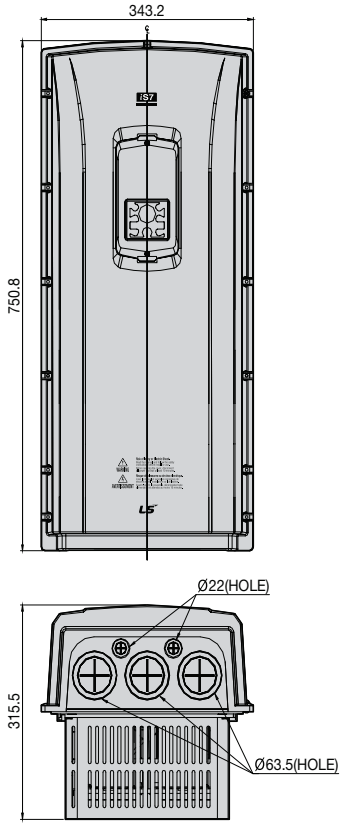


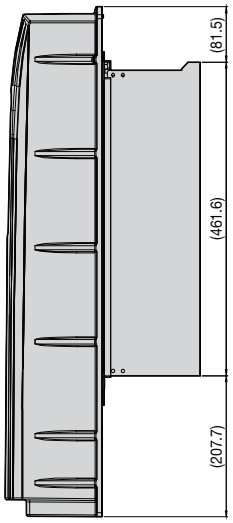


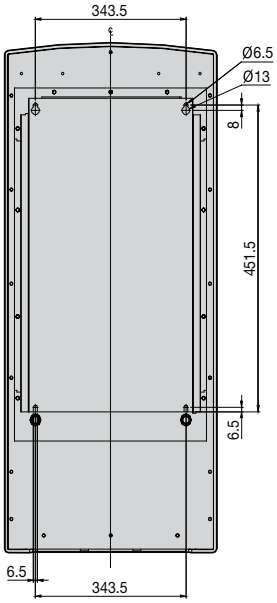


Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0110iS7-2/4	313	591	294	19.6
SV0150iS7-2/4				19.9

SV0185 ~ 0220iS7 (200V/400V Class)



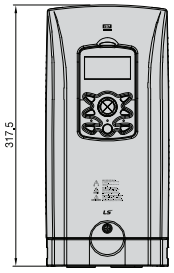


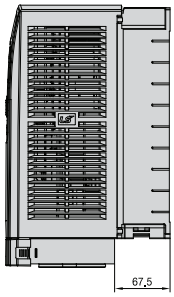


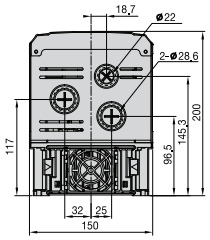
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0185iS7-2	343	571	316	29.9
SV0220iS7-2				
SV0185iS7-4				27.1
SV0220iS7-4				

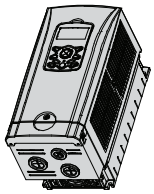
Dimensions (Conduit option)

SV0008 ~ 0037iS7 (200V/400V Class)



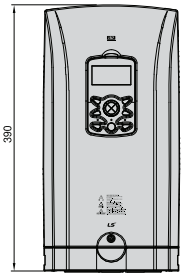


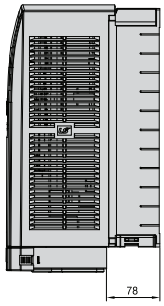


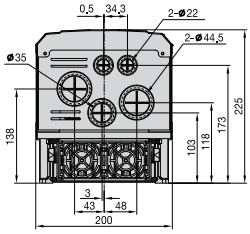


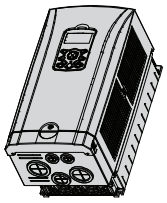
Drive + Conduit Box

SV0055 ~ 0075iS7 (200V/400V Class)



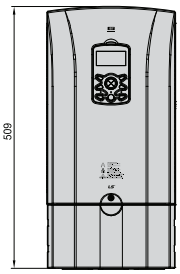


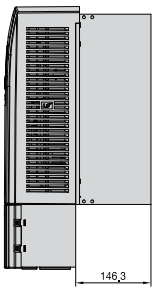


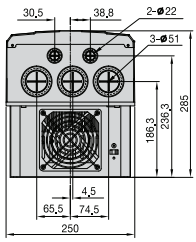


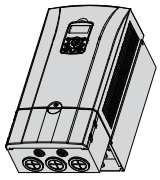
Drive + Conduit Box

SV0110 ~ 0150iS7 (200V/400V Class)



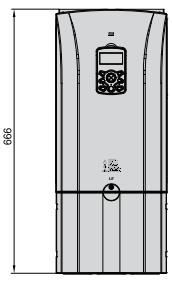


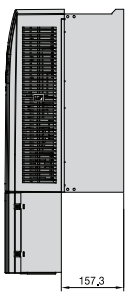


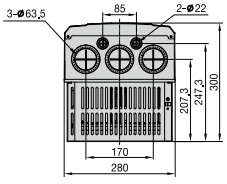


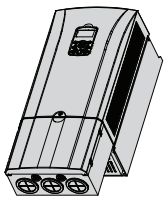
Drive + Conduit Box

SV0185 ~ 0220iS7 (200V Class)





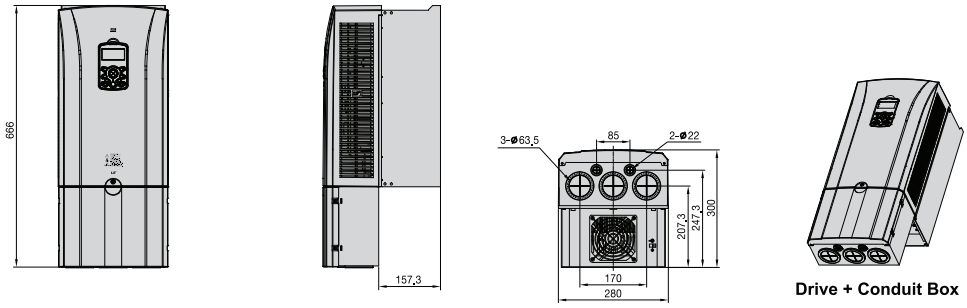




Drive + Conduit Box

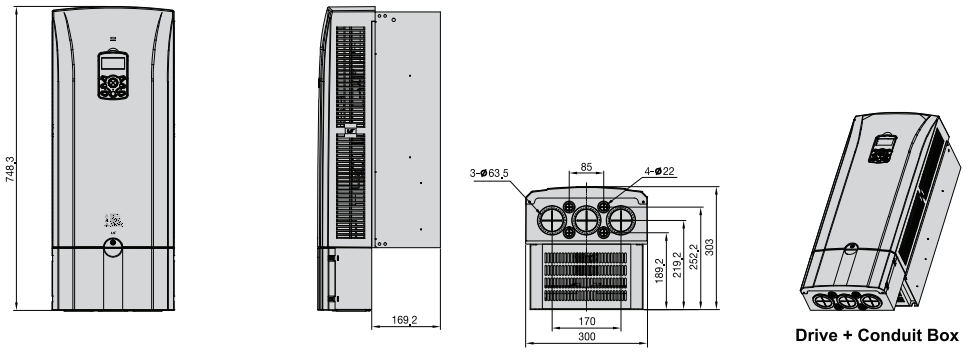
Dimensions (Conduit option)

SV0185 ~ 0220iS7 (400V Class)



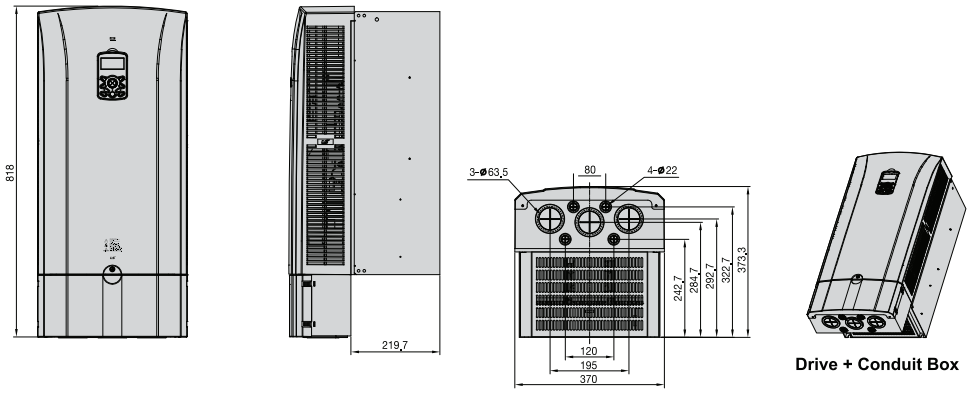
Drive + Conduit Box

SV0300 ~ 0450iS7 (400V Class)



Drive + Conduit Box

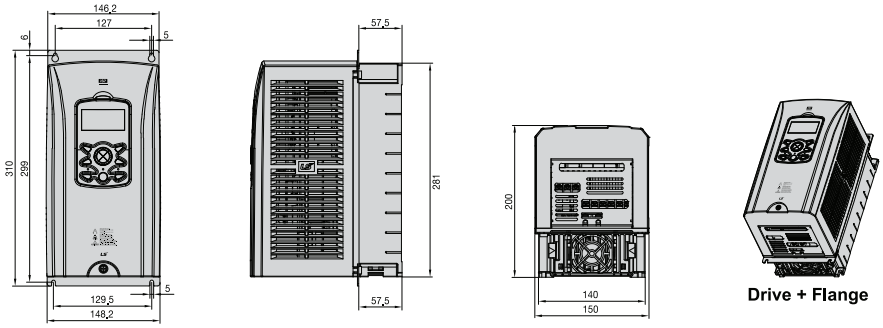
SV0550 ~ 0750iS7 (400V Class)



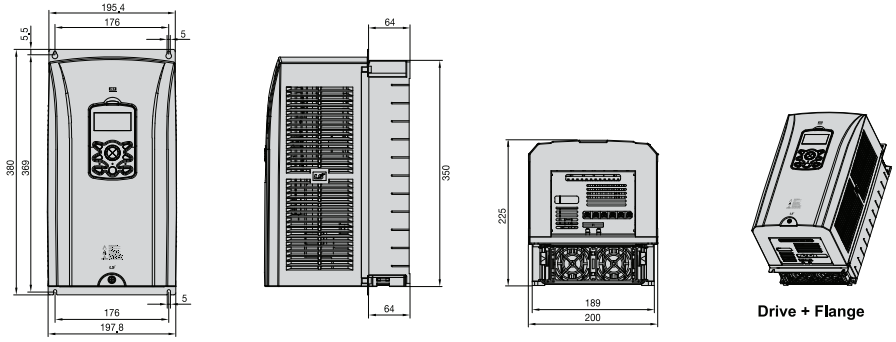
Drive + Conduit Box

Dimensions (Flange option)

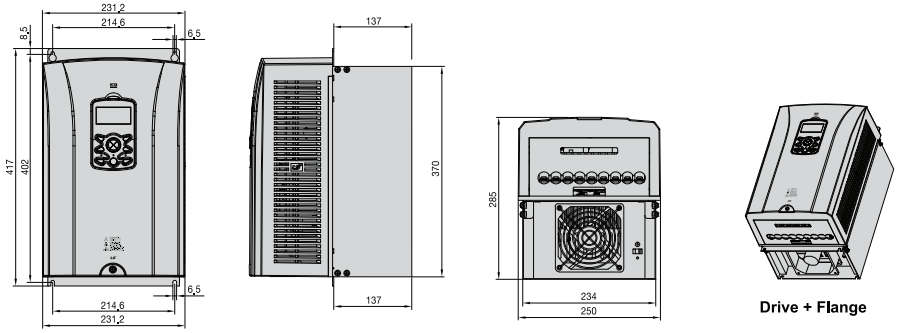
SV0008 ~ 0037iS7 (200V/400V Class)



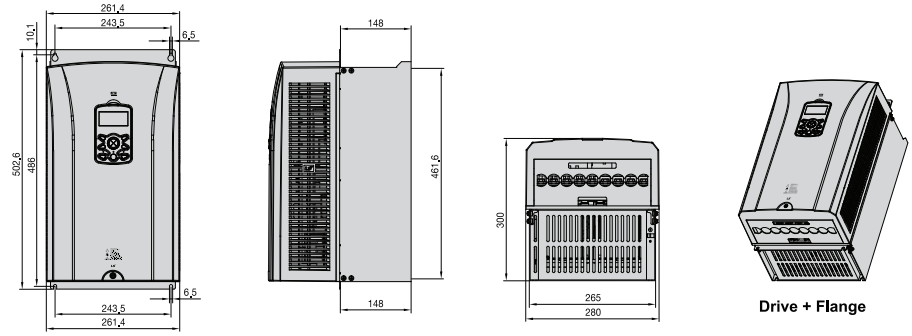
SV0055 ~ 0075iS7 (200V/400V Class)



SV0110 ~ 0150iS7 (200V/400V Class)

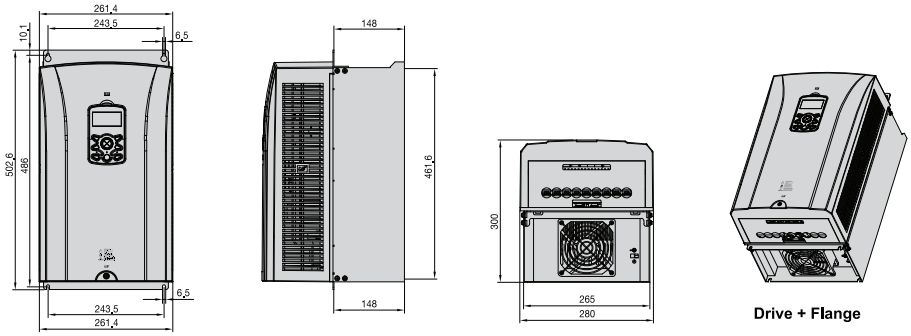


SV0185 ~ 0220iS7 (200V Class)

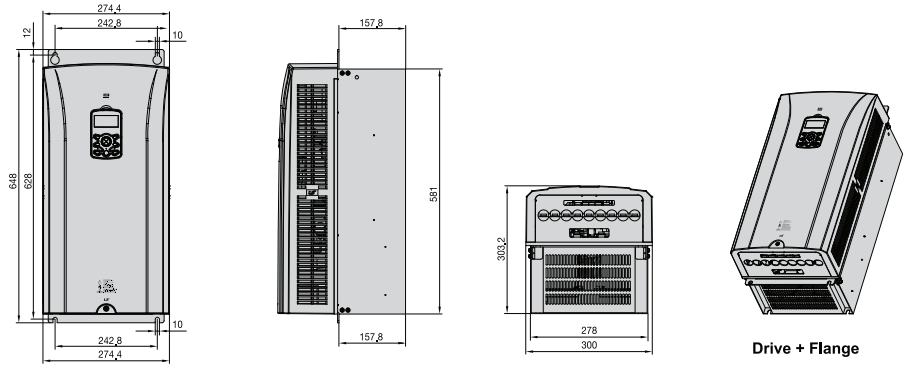


Dimensions (Flange option)

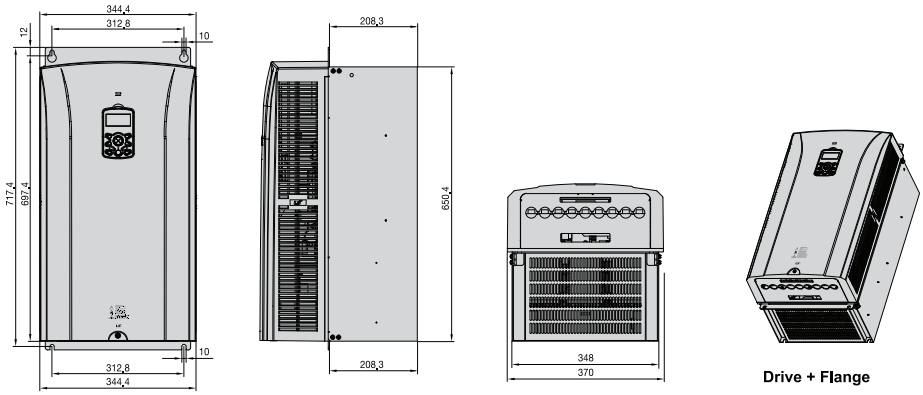
SV0185 ~ 0220iS7 (400V Class)



SV0300 ~ 0450iS7 (400V Class)



SV0550 ~ 0750iS7 (400V Class)



Memo

Memo

FUTURING SMART ENERGY

Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact a qualified service technician when you need maintenance.
  Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

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www.lsis.com

■ HEAD OFFICE

LS Tower, 127, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Korea

■ **EMEA** +82-2-2034-4901 / bonseongk@lsis.com

■ **Asia Pacific / Americas** +82-2-2034-4620 / mswoo@lsis.com

Overseas Subsidiaries

- **LSIS(Dalian) Co., Ltd._Dalian, China**
  No. 15, Liaohexi 3-Road, Economic and Technical Development Zone, Dalian 116600, China
  Tel : 86-411-8730-7510 / Fax : 86-411-8730-7560
- **LSIS(Wuxi) Co., Ltd._Wuxi, China**
  No. 1, Lexing Road, Wuxi National High &New Tech Industrial Development Area, Wuxi214028, Jiangsu, P.T.China
  Tel : 86-510-8534-6666-8005 / Fax : 86-510-8534-4078
- **LS Hukai Electric(Hubei) Co., Ltd._ Hubei, China**
  No. 100, Tanjiahe Road, Dianjun District, Yichang City, Hubei Province, 443004, China
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  Tel : 84-4-6275-8055 / Fax : 84-4-3882-0220
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  LOB 19-205, JAFZA View Tower, Jebel Ali Free Zone, Dubai, United Arab Emirates
  Tel : 971-4-886-5360 / Fax : 971-4-886-5361
- **LSIS Europe B.V._Netherlands**
  1st. Floor, Tupolevlaan 48, 1119NZ,Schiphol-Rijk, The Netherlands
  Tel : 31-20-654-1420 / Fax : 31-20-654-1429
- **LSIS Japan Co., Ltd._Tokyo, Japan**
  Tokyo Club Building 13F, 2-6, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo, 100-0013
  Tel : 81-3-6268-8241 / Fax : 81-3-6268-8240
- **LSIS USA Inc._ Chicago, U.S.A.**
  2000 Millbrook Drive, Lincolnshire, Chicago, IL 60069, United States
  Tel : 847-941-8240 / Fax : 847-941-8259

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Overseas Branches

- **LSIS Shanghai Office, China**
  32nd Floor, International Corporate City, No.3000 NorthZhongshan Road, Putuo District, Shanghai, China, 200063
  Tel : 86-21-5237-9977 / Fax : 86-21-5237-7189
- **LSIS Beijing Office, China**
  Room 2306, Building B Landgent Center, No.24 Middle Road, East 3rd Ring Road, Chaoyang District, Beijing, P.R. China
  Tel : 86-10-5761-3127 / Fax : 86-10-5761-3128
- **LSIS Guangzhou Office, China**
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  Tel : 86-28-8670-3200 / Fax : 86-28-8670-3203
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- **LSIS Jinan Office, China**
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  Tel : 86-531-8699-7826 / Fax : 86-531-8697-7628
- **LSIS Co., Ltd. Tokyo Office, Japan**
  Tokyo Club Building 13F, 2-6, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo, 100-0013
  Tel : 81-3-6268-8241 / Fax : 81-3-6268-8240
- **LSIS Co., Ltd. Rep. Office, Vietnam**
  Gema Dept Tower 18F, 6 Le Thanh Ton, District 1, HCM, Vietnam
  Tel : 84-8-3823-7890
- **LSIS Detroit Office, U.S.A.**
  5700 Crooks Rd, Suite 211, Troy, MI 48098, USA
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- **LSIS Co., Ltd. India Office, India**
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- **LSIS U.K. Office, United Kingdom**
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  Tel : 44-012-3483-4774 / Fax : 44-012-3483-4775

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